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OF

DEPARTMENT OF AGRICULTURE,

FOR

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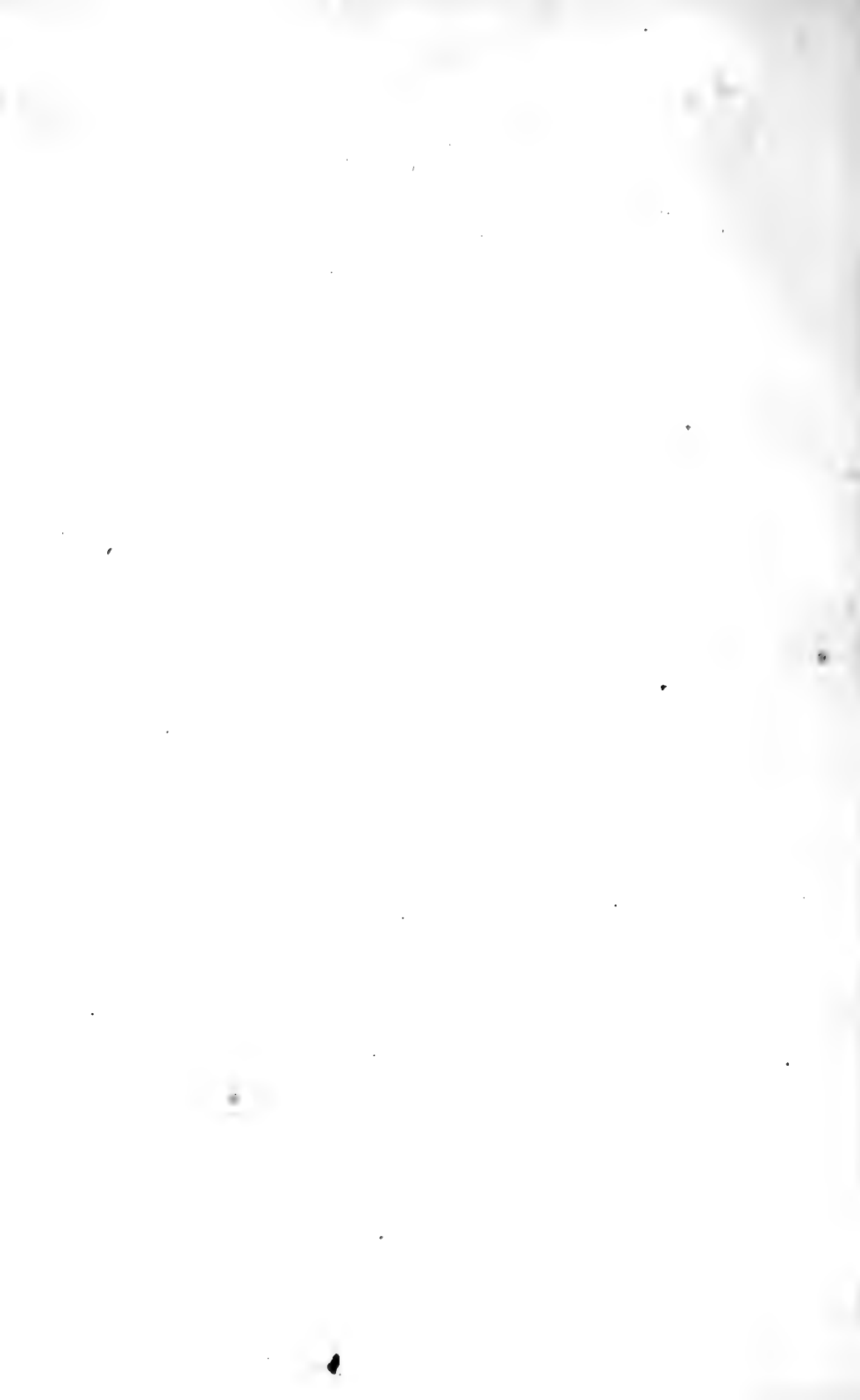
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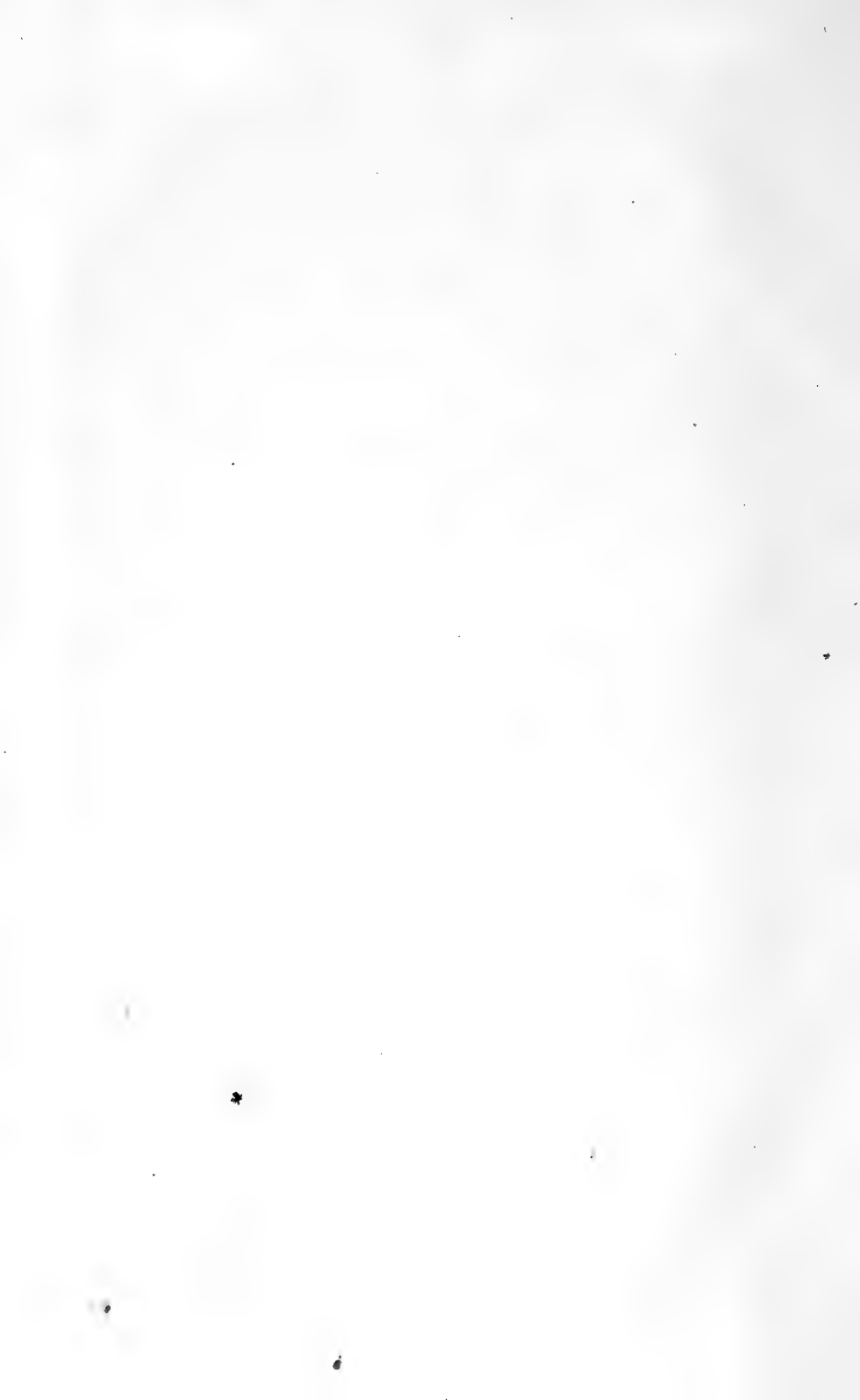
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OF

THE AGRICULTURAL DEPARTMENT.

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MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE,

January, 1867.

This number of the monthly report contains carefully compiled and valuable statistics upon a subject of vital importance in this or any other country—the rate of wages of farm labor. It is based on full returns from every State and nearly every Territory in the United States, and from nearly every county in many of the States. It has been a work of no small magnitude, accomplished with evident care and laborious research, and must be credited with a high degree of accuracy in its conclusions. It shows that the average rate of wages for farm laborers who board themselves, in the northern and western States, is \$28 00 per month, or \$15 50 when boarded; in the southern States, for freedmen, \$16 00 per month, or \$9 75 with board. An increase of seventy per cent. since 1835, is indicated.

A statement of the present average annual requirement of wool for consumption will be found to embody careful estimates of the native yield, and the foreign supply, both manufactured and unmanufactured. It will also serve to correct popular misapprehension of the present ability of this country to furnish its own wool supplies, without the necessity of any extensive importations of wool for the future, if this branch of industry should not be crushed out by discriminations in favor of foreign-grown wool.

Interesting statistics of the agriculture of the kingdom of Great Britain, from recent official statements, are also given, not only for the information of the people, but to show the steadily increasing prominence which civilized nations are giving to the subject of industrial statistics.

A variety of statistical presentations upon various subjects, will also be found in this number.

Particular attention is called to the circular, in accordance with a resolution of Congress, calling for specimens of cereals for the Paris exposition.

ISAAC NEWTON,

Commissioner.

THE RATE OF WAGES OF FARM LABORERS IN THE UNITED STATES.

In a single hundred years a change has been wrought in this country which may well challenge the admiration of the civilized world, and all that has been accomplished is the direct result of labor, and of that labor, the largest portion, if not the most productive of net profits, is the labor of agriculture.

Only one branch of agricultural industry is to be considered at this time. Farm workers are here farm proprietors. Scarcely more than one-fourth of those who obtain their living by agriculture, in this country, hire out their service to farmers for a monthly or other consideration. It is of this class that a systematic course of inquiry in every State and Territory has been made, and it is, as is believed, the first attempt of the kind ever made here.

The result shows an increase of the rates of wages in five years amounting to about fifty per cent. This is less than the increase of the cost of living; still the purchasing power of a month's wages is probably greater than in any other country in the world. Farm laborers, especially in the west, can enjoy more of the comforts of life, and attain a higher rank in the social scale, than those of any other country. They do not obtain the wages conceded to mechanics and other classes, perhaps better entitled to be considered skilled laborers, yet they enjoy an advantage, which is a partial compensation, in lower rents and cheaper subsistence supplies, and fewer temptations to extravagance and waste.

In view of the superior condition of the class, in comparison with rural laborers in other countries, it is not strange that the European peasant should covet such advantages, and seek them even at the expense of exile from the fatherland.

Immigration.—It is a suggestive fact that the immigration of millions of foreigners has not, as native laborers once feared, proved a serious competition, reducing the rate of wages. On the contrary, it has advanced great public works which have opened new and wider fields of industry, and has pushed the native laborer into the artisan ranks and the sphere of skilled labor, with higher wages, more exercise of mind, and less of muscle than before. When it is remembered that in 1860 there were 4,136,175 foreign residents, and at least 5,000,000 at the present time, or one-seventh of the population, and a still larger proportion of the actual labor of the country, this result must be acknowledged to be convincing evidence of the great resources and vast power of labor absorption possessed by the United States.

Increase of rate of wages.—More than thirty years ago Mr. H. C. Carey made the following estimate of the average of agricultural labor in this country: "Agricultural labor has not varied materially in these forty years in its money price; but the variation that has taken place has been in its favor—the wages of men having been very steadily about nine dollars per month and their board; but higher wages are now not very unusual." The average for white labor at the present time, as presented in the accompanying tables, is fairly stated at \$28 per month, or nearly \$15 50 and board. This indicates an advance of seventy per cent. in the lapse of a generation, mostly in the last six years, or fifty per cent. since 1861.

Table showing the average rate of wages of agricultural labor per month, when employed for the year, from returns from statistical correspondents, county clerks, and county auditors, made in December, 1866.

States and Territories.	Per month, for the year, (without board.)	Per month, for the year, (with board.)	Per month, for the season, (without board.)	Per month, for the season, (with board.)
Maine	\$27 00	\$17 44	\$31 76	\$23 07
New Hampshire	32 74	22 48	39 12	28 43
Vermont	32 84	21 00	37 44	25 72
Massachusetts	38 94	22 36	41 61	27 83
Rhode Island	34 40	20 50	40 00	26 33
Connecticut	34 25	21 54	39 66	28 30
New York	29 57	19 32	34 88	24 26
New Jersey	32 27	18 98	33 13	23 78
Pennsylvania	29 91	18 84	34 10	22 87
Delaware	24 93	13 25	26 25	15 25
Maryland	20 36	12 76	23 83	15 58
Virginia	14 82	9 36	17 21	12 09
North Carolina	13 46	8 15	15 18	10 00
South Carolina	12 00	7 66	14 00	9 46
Georgia	15 51	9 67	18 45	12 07
Florida	18 00	12 12	20 55	14 46
Alabama	13 40	9 80	16 38	11 00
Mississippi	16 72	11 58	22 58	16 80
Louisiana	20 50	12 42	22 25	18 34
Texas	19 00	12 72	23 73	16 76
Arkansas	24 21	15 80	29 61	19 46
Tennessee	19 00	12 58	22 00	16 61
West Virginia	25 35	16 47	29 34	21 20
Kentucky	20 23	13 65	23 80	17 06
Missouri	26 75	18 08	30 84	21 66
Illinois	28 54	18 72	33 09	23 30
Indiana	27 71	18 72	31 50	22 50
Ohio	28 46	18 96	32 45	23 15
Michigan	31 26	20 48	34 95	24 15
Wisconsin	30 84	19 87	35 65	24 60
Minnesota	31 65	21 10	38 40	27 17
Iowa	28 34	18 87	33 24	23 82
Kansas	31 03	19 81	36 40	25 46
Nebraska Territory	38 37	24 64	46 42	31 36
Utah Territory	44 71	26 32	58 22	38 41
Colorado Territory	67 50	42 12	79 16	50 00
New Mexico	25 00	16 50	30 00	25 00
California	45 71	30 35	50 00	34 39
Nevada	75 00	60 00	85 00	70 00
Washington Territory	52 25	36 25	60 50	44 50
Dakota	30 20	20 00	32 00	22 00
Oregon	35 75	22 53	41 60	29 00

Accuracy of the statement.—The returns from which this table is prepared were remarkably full, numerous, and satisfactory. It was deemed best not to load the circular with too many inquiries, or those difficult of prompt and universal answer. It embraced fifteen separate inquiries relative to farm labor, by hand or machine. A deep interest in the subject, with a proper appreciation of its importance, was manifested by correspondents, who replied with promptness and intelligence, after consultation with the best judgments in their vicinity. In a very few cases where any misunderstanding of a single point apparently existed, the difficulty was cleared up by correspondence. The extent and com-

pleteness of the work may be inferred from the number of returns, mostly representing counties, though occasionally subdivisions of counties; and each one of these returns compiled in accordance with the combined judgment of several local correspondents, or other individuals. Ohio, for instance, is represented by 114 returns; Indiana by 110; Illinois by 103; Iowa by 104; New York by 109; Pennsylvania by 75; smaller States by a less number; in all, 1,510 formal statements, each made up of several others, usually representing a defined territory or district.

As an example of uniformity in a populous, central, prosperous belt, interlaced with railroads and traversed or skirted with navigable water, let the reader note the figures for the States on the fortieth parallel. The monthly rate of wages, without board, is placed at \$29.91 in Pennsylvania, \$28.46 in Ohio, \$27.71 in Indiana, \$28.54 in Illinois, \$28.34 in Iowa. The east is subject to a somewhat higher cost of living, while in the west the scarcity of labor has the same tendency to advance prices. This scarcity in Nebraska pushes the rate to \$38.37. The rate of wages, with board, is still more uniform: Pennsylvania, \$18.84; Ohio, \$18.96; Indiana, \$18.72; Illinois, \$18.72; Iowa, \$18.87; showing an entire range of variation in the net price of labor of only twenty-four cents!

Very general returns were received from the southern States, yet fewer than from the northern. These States rest under the disadvantage of a disturbed condition of labor relations, resulting from the war and the manumission of slaves. Assuming as a truth the proposition of Mr. Amasa Walker, that involuntary servitude is not labor, it might be declared that labor in the south has scarcely progressed beyond the period of helpless infancy. Low rates of wages are, therefore, returned from this section. The multiplicity of modes of contracting for service of freedmen, involving, in some cases, semi-partnerships or shares in the products of labor, and in others total or partial supplies of food or implements of labor, renders it difficult to report with accuracy its actual market value. Yet, the result of the inquiry has been, upon the whole, quite satisfactory.

The average rate of wages, viz., \$28 for labor of whites, and \$16 per month for that of freedmen, was obtained by careful and laborious calculation. First, the average monthly wages in a State was multiplied by the number of farm laborers in such State, and so with each member of the Union. Then the sum of the aggregate monthly wages was divided by the aggregate number of laborers, giving as a quotient the proper average monthly pay of the farm laborer. An average of the several State averages, it will readily be seen, would by no means answer the purpose of approximate accuracy, as such a mode of *miscalculation* would give to a State with few laborers as much influence as one with many.

Causes and results of high rates.—In those States in which regular labor is most general among the inhabitants, and where it is prosecuted in greatest variety, there will wealth abound and prosperity be most generally enjoyed. And another fact relative to such States will also be noted—their laborers receive the highest rate of wages.

Massachusetts has a poor soil, and cannot be considered a farming State. In 1860 the United States census returned 45,204 farmers, and 17,430 farm laborers, while the total return of all occupations was 454,632. The State census of 1865 makes the number engaged in agricultural pursuits 68,636, and those employed in manufacturing 271,241. The employment of all this labor in commerce, in fisheries, in manufactures, in the mechanic arts, and in trade, requires a consumption of farm products far greater than the home supply. This enables farmers to select those branches of their business most profitable under the circumstances, and least affected by foreign competition, as the milk trade, the fruit supply, and production of perishable vegetables. The facility of obtaining employment in other occupations gives the farm laborer a material advantage, and

enforces his demand for higher rates of labor. "The result is, at the present time, higher monthly pay than any other State in the Union, except California, viz: \$38 94 per month for farm labor, without board. And while the necessities of life are also high, there is no State in which the agricultural laborer enjoys the comforts of life to a greater extent, or is better fitted to act a creditable part in his sphere in society.

The advantages of great variety in industry are manifold, one of the highest of which is the fact that all classes and capacities, young and old, male and female, are furnished with something to do, and with a motive for doing it, and thus labor in some form becomes the rule, to which there are few exceptions. Consumers and producers are at each other's doors, or commingled in the same household, and carriers and go-betweens absorb but a small portion of the profits of industry. There is no glut of the markets from excess of production or the deficiency or great expense of transportation. There is no occasion to sell corn for ten cents per bushel, or eggs at six cents per dozen, or cattle, as in Texas, at five dollars per head.

It is fashionable in communities with but one prominent industry to deery the promoters of these industrial enterprises as monopolists and heartless oppressors. Thirty-eight dollars per month for farm labor, and twenty to thirty for light employments of females, are sufficient answers to such ill-natured charges. Tidy and well-furnished houses, and evidence of refinement in humble life, are not the concomitants of the oppression and tyranny of capital. These same communities must adopt the same variety in industry which they might have done and should have done many years ago, or the compulsive idleness and resultant poverty of large masses of their people will continue, and become intensified and chronic, until their whinings over the prosperity of more industrious communities shall become an envious wail of misery.

This path of progress has been equally open to all; laws supposed to favor a diversified industry have been applicable to all States alike; the best water-power and the cheapest coal are in States that make no extensive use of either; milder climates and superior facilities for cheap transportation have furnished advantages that have not been transmuted into net profits; and yet such communities, daily inflicting irreparable injury upon themselves, by neglecting the gifts of God and spurning the labor of man, are wont to deem themselves injured by the prosperity flowing from superior industry and a practical political economy.

Will States that are almost deserts from a suicidal policy of growing agricultural products for exportation, and importing everything, learn wisdom from poverty, and grow prosperous and wealthy, with laboring classes comfortable and intelligent, and advancing in moral and mental culture?

The rate of wages in the several States differs just in proportion to the multiplication of separate industries, modified in new States in process of settlement by the increased demand for consumption occasioned temporarily by incoming settlers who are as yet non-producers, or in the mining States and Territories by the employment of the majority in mining. The following is a table of average wages per month of farm laborers employed for the year, in the different sections of the country:

Eastern States.....	\$33 30
Middle States.....	30 07
Western States.....	28 91
Southern States.....	16 00
Oregon.....	35 75
California.....	45 71

One cause of high rates of labor in this country is the superior intelligence and activity of the laborers. Nowhere else is so much agricultural labor done

by machinery requiring skill and knowledge in its management, and accomplishing marvellous results in its swift and efficient action. An English writer on political economy recognized this element of increase in labor rates when he said: "The average annual wages in England are three times as high as in Ireland; but as the laborer in Ireland is said not to do more than one-third of what is done by the laborer in England, the price of labor may in both countries be about equal." There is a tendency to a just equilibrium in the labor markets as in all other markets; and if laborers by superior skill and celerity of movement may do double work, they will obtain, other things being equal, a double price. Agricultural machinery has done more in this country than anything else towards the elevation of labor.

LOCAL VARIATION OF RATES.

The "Panhandle" of West Virginia is a notable example of high local rates of wages, as compared with the State average. Its circumstances have been peculiar. Hemmed in between Ohio and Pennsylvania, and with fair facilities for getting to market, it has developed higher skill and a better style of farming than other sections of the State. The influence of slave labor in depressing rates of wages has aided in widening this difference and reducing the State average below that of the Panhandle. Sheep husbandry, which has here been successfully and very extensively conducted, (placing a sheep upon each acre of improved land,) has contributed to the high prices here prevailing. The comparison is as follows:

	Question 1.*	Question 2.	Question 3.	Question 4.
Panhandle.....	\$31 75	\$18 50	\$37 00	\$25 50
State of West Virginia	25 35	16 47	29 34	21 20

The rates with and without board also differ widely—\$13 25 and \$8 88.

Dairying.—The dairy and fruit producing interests of northern Ohio have been of late unusually prosperous. Labor has been in demand at comparatively high rates, as will be seen from a comparison of the averages for the western reserve, the Miami valley, and the entire State:

	Question 1.*	Question 2.	Question 3.	Question 4.
Western reserve.....	\$30 43	\$20 72	\$36 24	\$26 22
Miami valley	23 79	18 75	32 71	23 08
State of Ohio.....	28 46	18 96	32 45	23 15

The difference in wages with board is not very material. The board allowance is slightly greater in the western reserve than the average for the State, and more for the "season" than for the entire year. The reverse is true of the Miami valley.

* Question 1. Average wages per month (without board) of farm laborers hired for the year. Question 2. Average wages per month (with board) of farm laborers hired for the year. Question 3. Average wages per month (without board) of farm laborers hired for the season or a portion of the year. Question 4. Average wages per month (with board) of farm laborers hired for the season or a portion of the year.

Wages in Indiana.—The average rate of wages of Indiana, south of thirty-nine degrees north latitude, and the average for the whole State, are as follows:

	Question 1.*	Question 2.	Question 3.	Question 4.
Southern Indiana.....	\$26 25	\$18 56	\$29 24	\$21 77
State of Indiana.....	27 71	18 72	31 50	22 50

The average differences in board allowances are respectively \$7 61 and \$8 99.

This average for southern Indiana, a region having in the past a reputation for comparative inferiority in agricultural improvements, indicates increasing skill in farm processes, and general industrial progress, and shows a close approximation to the average of the entire State.

Southern Illinois.—Southern Illinois, too, with its rolling surface covered with forests, and less desirable soils than those of the northern prairies, has failed to secure hitherto so rapid settlement, or such an increment of improvement. Yet this region has its peculiar advantages, which have recently been seized upon by eager immigrants; and the results have been eminently satisfactory.

The following exhibit of wages is shown:

	Question 1.*	Question 2.	Question 3.	Question 4.
Southern Illinois.....	\$26 06	\$16 83	\$30 36	\$21 41
State of Illinois.....	28 54	18 72	33 09	23 30

Nearness to cities.—The influence of diversification of industry, and the consequent withdrawal of labor from farms to manufactures and trade, increasing the price of farm labor, as well as of farm products, is shown in the average for St. Clair county, opposite St. Louis.

	Question 1.*	Question 2.	Question 3.	Question 4.
St. Clair county.....	\$40 00	\$20 00	\$50 00	\$35 00

Omitting from the table the vicinity of St. Louis, the showing for southern Illinois is as follows:

	Question 1.*	Question 2.	Question 3.	Question 4.
Southern Illinois.....	\$24 83	\$16 62	\$28 85	\$20 06

Easy transportation and skilled labor.—The advantage of facilities for transportation are shown by the increased rates of wages near navigable rivers and

* Question 1. Average wages per month (without board) of farm laborers hired for the year. Question 2. Average wages per month (with board) of farm laborers hired for the year. Question 3. Average wages per month (without board) of farm laborers hired for the season or a portion of the year. Question 4. Average wages per month (with board) of farm laborers hired for the season or a portion of the year.

lines of railroad. This is conspicuously seen in a comparison of the river counties of Kentucky with those of other portions of the State. Other elements of difference appear in a comparison of the river counties of the Kentucky side with those of the Ohio shore. A more diversified industry in Ohio, and the employment of free instead of slave labor, enter into the calculation and make a material advance in the rate. The following table exhibits nearly as great a difference between the river counties of Ohio and those of Kentucky as exists between the latter and those of the entire State :

	Question 1.*	Question 2.	Question 3.	Question 4.
State of Kentucky.....	\$20 23	\$13 65	\$23 80	\$17 06
River counties, Kentucky.....	24 23	16 36	28 79	20 36
River counties, Ohio.....	23 27	17 36	32 81	22 33

Free labor influence.—The influence of changing the system of labor in a State from slave to free is illustrated very conspicuously in the belt of States from Virginia to Missouri. Virginia has been divided for several years, and that portion west of the mountains, formerly in comparative discredit as an agricultural region, shows a much higher rate of wages than Virginia proper. Slave labor, for several years, has scarcely been known in a large portion of Missouri. The following is a showing of the rate of wages for these States :

	Question 1.*	Question 2.	Question 3.	Question 4.
Virginia.....	\$14 82	\$9 36	\$17 21	\$12 09
West Virginia.....	25 35	16 47	29 34	21 20
Kentucky.....	20 23	13 65	23 80	17 06
Missouri.....	26 75	18 08	30 84	21 56

BOARD OF FARM LABORERS.

The difference between wages without board and the rate allowed when board is furnished by the employer is naturally found to vary quite regularly with the cost of food products, the rate being higher in the east than in the west, and higher still in the territories of the Rocky mountains, but less in California than in Massachusetts. In the south the board of freedmen, consisting mainly of corn meal and bacon, is of course very low. Possibly in Alabama the difference between labor with and without board may be too small. The mode of hiring and supplying these laborers varies so much with circumstances that our correspondents found it difficult to reduce their information to the system required.

The following is a statement of these differences in monthly pay on account of board, averaging \$6 26 in the southern States, and \$12 51 for the other States :

Maine.....	\$9 56	New York.....	\$10 25
New Hampshire.....	10 76	New Jersey.....	13 29
Vermont.....	11 84	Pennsylvania.....	11 07
Massachusetts.....	16 58	Delaware.....	11 68
Rhode Island.....	13 90	Maryland.....	7 60
Connecticut.....	12 71	Virginia.....	5 46

* Question 1. Average wages per month (without board) of farm laborers hired for the year. Question 2. Average wages per month (with board) of farm laborers hired for the year. Question 3. Average wages per month (without board) of farm laborers hired for the season or a portion of the year. Question 4. Average wages per month (with board) of farm laborers hired for the season or a portion of the year.

North Carolina.....	\$5 31	Ohio.....	\$9 50
South Carolina.....	4 34	Michigan.....	10 78
Georgia.....	5 84	Wisconsin.....	10 97
Florida.....	5 88	Minnesota.....	10 55
Alabama.....	3 60	Iowa.....	9 47
Mississippi.....	5 14	Kansas.....	11 22
Louisiana.....	8 08	Nebraska Territory.....	13 73
Texas.....	6 28	Utah Territory.....	18 39
Arkansas.....	8 41	Colorado Territory.....	25 38
Tennessee.....	6 42	New Mexico Territory.....	8 50
West Virginia.....	8 88	California.....	15 36
Kentucky.....	6 58	Nevada.....	15 00
Missouri.....	8 67	Washington Territory.....	20 00
Illinois.....	9 82	Dakota Territory.....	10 20
Indiana.....	8 99	Oregon.....	13 22

The average, as above, for white laborers, is \$12 51 per month; in the south, with reference mainly to freedmen, \$6 26.

Table showing the rate of wages of agricultural labor, per day, in transient service, from returns from statistical correspondents, county clerks, and county auditors, made in December, 1866.

States.	Per day, for transient service in harvest, (without board.)	Per day, for transient service in harvest, (with board.)	Per day, for transient service other than in harvest, (without board.)	Per day, for transient service other than in harvest, (with board.)
Maine	\$2 02	\$1 56	\$1 49	\$1 13
New Hampshire	1 98	1 52	1 67	1 26
Vermont	2 32	1 85	1 76	1 32
Massachusetts	2 41	1 92	1 83	1 38
Rhode Island	2 23	1 71	1 83	1 33
Connecticut	2 43	1 90	1 75	1 29
New York	2 41	1 92	1 75	1 23
New Jersey	2 68	2 38	1 68	1 20
Pennsylvania	2 32	1 80	1 59	1 10
Delaware	2 09	1 62	1 31	94
Maryland	2 00	1 68	1 31	96
Virginia	1 46	1 21	82	57
North Carolina	1 53	1 17	72	50
South Carolina	1 25	93	69	45
Georgia	1 48	1 06	99	70
Florida	1 12	83	1 00	74
Alabama	1 27	1 04	78	55
Mississippi	1 65	1 14	1 34	89
Louisiana	1 66	1 20	1 08	70
Texas	1 65	1 32	1 31	98
Arkansas	2 07	1 52	1 34	88
Tennessee	2 01	1 54	1 15	83
West Virginia	1 78	1 31	1 31	92
Kentucky	2 10	1 70	1 21	86
Missouri	2 15	1 72	1 44	1 07
Illinois	2 41	1 91	1 62	1 21
Indiana	2 23	1 76	1 45	1 06
Ohio	2 20	1 73	1 54	1 13
Michigan	2 62	2 14	1 78	1 30
Wisconsin	2 68	2 15	1 78	1 28
Minnesota	2 68	2 27	1 75	1 35
Iowa	2 38	1 83	1 62	1 19
Kansas	2 31	1 82	1 65	1 19
Nebraska Territory	2 65	2 15	1 93	1 43
Utah Territory	3 42	2 49	2 27	1 63
Colorado Territory	4 17	2 87	3 29	1 93
New Mexico Territory	1 50	1 12	1 00	90
California	2 56	2 06	2 26	1 72
Nevada	3 50	3 00	3 00	2 50
Washington Territory	3 00	2 25	2 25	1 75
Dakota Territory	2 50	2 00	2 00	1 50
Oregon	2 40	1 80	1 75	1 40

Table showing the average prices of harvesting and stacking wheat and cutting and stacking hay.

States.	Price per acre of harvesting and stacking wheat, including all the labor of men and horses.	Price per acre of cutting, curing, and stacking hay.	Price per acre of cutting hay only.
Maine.....	\$4 37	\$3 54	\$1 16
New Hampshire.....	5 75	3 77	1 33
Vermont.....	4 33	3 48	1 19
Massachusetts.....	4 72	5 19	1 75
Rhode Island.....	6 00	6 12	1 71
Connecticut.....	3 70	4 75	1 81
New York.....	3 88	3 28	1 11
New Jersey.....	4 36	4 04	1 52
Pennsylvania.....	4 36	4 10	1 38
Delaware.....	3 25	3 87	1 50
Maryland.....	4 21	4 83	1 57
Virginia.....	2 07	1 98	1 05
North Carolina.....	1 84	2 67	1 59
South Carolina.....	1 56	3 37	1 50
Georgia.....	2 41	2 82	1 81
Florida.....			
Alabama.....	2 17	3 66	1 75
Mississippi.....	2 66	3 31	1 50
Louisiana.....			
Texas.....	2 65	4 06	1 70
Arkansas.....	3 00	4 37	1 96
Tennessee.....	2 36	3 49	1 86
West Virginia.....	2 75	2 74	1 07
Kentucky.....	3 03	3 51	1 60
Missouri.....	3 59	3 25	1 12
Illinois.....	3 32	2 69	90
Indiana.....	3 33	3 09	1 07
Ohio.....	3 18	3 10	1 00
Michigan.....	3 41	3 14	1 09
Wisconsin.....	3 28	2 73	1 05
Minnesota.....	3 33	3 34	1 26
Iowa.....	2 95	2 58	81
Kansas.....	3 73	3 90	1 03
Nebraska Territory.....	4 28	3 53	98
Utah Territory.....	9 32	8 91	3 37
Colorado Territory.....	9 56	7 79	3 85
New Mexico Territory.....	6 50		
California.....	2 76	3 00	1 25
Nevada.....		8 00	3 00
Washington Territory.....	3 00	5 50	2 00
Dakota Territory.....	2 50	4 00	1 50
Oregon.....	3 75	3 00	94

The following questions were fully answered, but, owing to the great diversity in the mode and conditions of such operations, no average could fairly be drawn :

"10. Price, per bushel, of threshing and separating wheat?

"11. Price, per bushel, of threshing and separating oats?

"12. Price, per bushel, of husking and cribbing corn?

"13. Price, per bushel, of shelling corn?

"14 Price, per acre, of cutting and stacking hay?"

In some localities the machine and its manager only are furnished, at a low price per bushel; in others, additional men or horses; in others still, all labor,

board, or other expense. The prices, therefore, vary, as in Illinois for instance, from three to seventeen cents per bushel. And so in other States. The actual returns from Illinois would average $8\frac{1}{2}$ cents; question 11th, average $5\frac{1}{10}$ cents. In cutting and stacking hay, in Illinois, the returns ranged from \$1 50 to \$4 per acre.

The following extracts from correspondence will show further the impossibility of obtaining uniformity in returns relative to machine labor, and to some extent, freedmen's labor:

A Pennsylvania correspondent says of harvesting wheat: "Men are either hired by the day and furnished with horses and wagon, or receive a portion of the crops, (threshed,) to be agreed upon. In out-lots, adjoining towns, it is customary to get a neighboring farmer to do the work, and to deliver to the owner of the soil one-half the threshed grain. This includes ploughing and sowing, each party furnishing half the seed.

"As to your 12th question, men are hired by the day, and the corn is cribbed or otherwise disposed of at the expense of the owner. The shelling of corn is done by the farmers themselves, with such hired assistance as the mode of operation requires. Large lots are tramped out with horses. It is generally sold in the ear, however. Cutting, curing, and stacking hay is done for one-half the crop, the cropper finding all."

Charleston, Kanawha county, West Virginia.—"I have had some difficulty in getting the price per acre for harvesting—no two agreeing as to the exact price; for some machines require more labor than others, and no one, it appears, has kept regular account as to the real cost. I have, however, taken the medium. The greatest portion of this county is harvested by manual labor, except hauling."

Ottawa county, Michigan.—"The person owning the threshing machine charges six cents per bushel for wheat, and three cents for oats, but his employer furnishes about seven men and two teams in addition, which would make the whole cost as reported. In consequence of the lumbering business, labor is no cheaper for the whole year than for six or eight months in summer."

Pineville, McDonald county, Missouri.—"This county is just recovering from the effects of the war, and it would be impossible to give a correct list of prices and wages, or anything near it."

Mt. Olive, North Carolina.—"As to the price of harvesting and stacking wheat, husking and cribbing corn, shelling corn, &c., it is impossible for me to give an answer, as such work is never let out here."

Thomasville, North Carolina.—"There is no machinery used in this county for harvesting wheat. Corn is still husked by means of the old-fashioned 'husking,' called by us 'shucking,' when the neighbors in turn assist each other in husking their corn at night."

Paris, Texas.—"The harvest labor mentioned in the report is the old style of harvesting by hand; we having but few machines in the county, not more than one-tenth of our grain being harvested by machinery."

Oceana, West Virginia.—"We have no machines in this county for cutting wheat; hence I am unable to give a price, as it is always performed by day laborers with cradles."

Cornersville, Giles county, Tennessee.—"The answers to the wages of hands are given from actual contracts. It is proper to remark that it costs more to feed a white laborer than a black one. The whites require flour, sugar, coffee, &c., whereas the blacks, in the main, have their thirteen bushels meal and one hundred and eighty-seven and a half pounds bacon per hand, together with milk, potatoes, and vegetables, given to them for a year's allowance, and they do their own cooking. White men without families eat at our family table. Negroes are less in the way, and it don't cost as much to feed them. Whites are more reliable, have better judgment, and a higher regard for their obligations."

Sanilac county, Michigan.—"It is the universal custom here to board hired

men, so I have included board in the within estimate, except the price of threshing wheat and oats, which would double if board is to be included."

Summit, Mississippi.—"As in this State all agricultural pursuits are subordinate to the cultivation of cotton, but few of the questions are applicable to the system of agriculture in the cotton region. The planter regulates the area of land planted by the labor he can command for the whole year, and it is only in a wet spring or a productive season that extra labor is wanted. Should the spring be wet the cotton cannot be worked, and the grass will get such hold that extra labor is required or a portion of the crop has to be abandoned. In productive seasons it is often necessary to employ extra labor to pick the cotton. Except in one or the other of these contingencies, extra labor is rarely employed on a cotton farm. During the past season the cotton farms were worked but upon two principles: One to hire labor, and the prices then assimilated to those appended to the questions; the other to give the laborer a share of the crop. The apportionment of the laborer's interest depended much on his ability to labor, and the size of his family. Generally, where the landed proprietor furnishes the working stock and the plantation tools, and the laborer supports himself and family, they are equal partners in the crop. Where the proprietor furnishes the above and supports the laborer, the laborer gets from one-quarter to one-sixth of the crop, depending on his family. The experience of the last year is, that the freedman works well for a few months, but becomes restless and desires to change, and this season many have abandoned half a year's work and gone off without saying a word. I think there is a growing disposition on the part of freedmen to work on shares, and a large number of planters have abandoned the idea of working their places with hired labor, and will rent their places out. My own experience is, that the only way to benefit the freedman and make his labor available is to make him rely upon himself for his support."

Madison county, Virginia.—"In some instances it has been found difficult to ascertain the true cost of labor, owing to the diversity of contracts entered into with colored laborers; for instance, a man with a wife and three or four children, boarded and clothed, receives no additional pay, while others, with families of same size, would command, without clothes, from thirty dollars to sixty dollars per annum. It is believed, from present indications, that for the ensuing year but few, if any, colored laborers will enter into any sort of contract for a year, evincing a total aversion to regular work. Many of them are now busily engaged in building shanties, with a view to setting up for themselves, without a dollar to begin. In my estimate of cost for cutting, curing, and stacking hay the aid of machinery has not been taken into account; in shelling corn, however, it has been."

Union county, South Carolina.—"All laborers are included, from the best to those who are only able to earn their rations and clothing. Negroes constitute about nineteen-twentieths of the hired labor of the county."

COMPARISON WITH EUROPEAN LABOR.

The rates of labor in Europe are much less than in this country. Elaborate calculations by Professor Leone Levi make the total earnings of the laboring classes of Great Britain \$2,091,500,000 in all industries; in agriculture, \$375,000,000. The average income of a working man in England is \$5 62 per week; in Scotland, \$5 12; and in Ireland, \$3 58.

The agricultural laborer receives scarcely two-thirds as much as the general average. Mr. Levi does not give the average rate, but it can be readily approximated. In England \$1 75 to \$2 per week may be considered the lowest rate, while few farm laborers obtain more than \$4 or \$4 50. The former rate, with the bonus of "a little cider," is common in Devonshire; in South Shropshire, \$2 75, with additions equal to seventy-five cents more, or \$3 50 in all; in Dor-

setshire, \$2; in Durham and Northumberland, \$3 75, with house and garden, coal, potatoes, and wheat. It may not be very wide of the truth to estimate the present wages of the English farm laborer at \$3 50 per week. Allowing four weeks for holidays and absence from other causes, the year's earnings would be \$168. Wade's History of the Middle and Working Classes placed the average of husbandry wages at \$3, which was believed to be high at that time. Mr. Senior made the average of all kinds of labor \$168 per year in Britain, and \$224 in the United States. Farm labor then averaged less. This is not given as the actual average, but is probably quite as favorable to the laborer as it can truthfully be made.

The American farm laborer, as has been shown, gets \$28 dollars per month, or, counting eleven months' work each year, \$308 per annum. Although the pay is in currency, each dollar will buy more breadstuffs and vegetables in the great western agricultural sections than will a gold dollar in England.

Wages have materially increased of late. Mr. Levi estimates that one-half the laborers of the United Kingdom, from increase of wages, are able to consume one pound more meat each per week than formerly.

Our farm labor proper (meaning *hired* farm labor) is a small item compared with the labor of farmers and their sons. There are about 900,000 farm laborers, exclusive of the freedmen, and 2,500,000 farm proprietors, yet the labor of these 900,000 is no insignificant item. At \$308 each per annum it amounts to an aggregate of \$277,200,000, \$2,200,000 more than Mr. Levi's estimate of agricultural labor in Great Britain. And this is but little more than one-fourth of the actual farm labor done by white laborers. The freedmen, of whom a large portion of the adults, male and female, are farm laborers, will swell the total estimate of agricultural labor to a magnificent figure.

It is believed that such an exhibition of the facts of this great department of human industry will furnish profitable food for reflection and information tending to promote the profits of industry and the welfare of the human race.

WOOL CONSUMPTION.

The strangest misconceptions of the actual amount of wool annually consumed in the United States are common in newspapers and in statements of individuals. But the wildest of the statements yet made by intelligent parties is that of the Special Commissioner of Revenue, in his recent report upon the revenue system.

The first point taken is, that wool growers, in demanding a minimum of ten cents per pound specific and ten per cent ad valorem, desire to raise the price of wools to that extent, and it is attempted to be shown that such a rate would operate as a ruinous tax upon the resources of the country. To fortify such an assumption the astounding estimate is seriously made of a present average annual consumption of 150,000,000 pounds of manufactured woollens, and upon this extraordinary blunder, which in this case is certainly worse than the crime of intentional misrepresentation, is based an estimate of increased cost of such goods to the extent of \$71,250,000.

The estimate is as follows :

"The number of sets of woollen machinery or series of cards employed in the United States, reported to the Wool Manufacturers' Association in October, 1865, was four thousand one hundred,|| consuming 2,252,545 pounds of scoured wool, and substitutes for wool, per week; but these returns, it was stated, did not probably indicate more than three-fourths to four-fifths of the sets then in actual operation. Suppose, however, the balance to consume wool equal to the

shrinking from the cards to the manufactured goods—and there is no doubt but they will do more than that—we have, then, as the weekly product of the country, (in prosperous times,) two million five hundred thousand pounds of cloth per week, or one hundred and seventeen millions of pounds per annum.

“Again, the weight of the woollen goods imported into the United States during the fiscal year 1866, the commissioner, after a careful examination, estimates to have been as follows:

Woollen goods proper.....	17,000,000 pounds.
Carpets.....	2,500,000 pounds.
Dress goods, bunting, and worsted manufactures.....	13,500,000 pounds.
Total.....	<u>33,000,000 pounds.</u>

“These results, therefore, indicate the present average consumption of manufactured woollens in the United States to be about one hundred and fifty million pounds per annum.

“It must be evident, now, that, to the extent to which the cost of wool is increased to the American manufacturer, through the increased duties on his raw materials, it will be necessary to impose an equivalent increase of duties on the importations of foreign woollens, otherwise the increased price of wool, growing out of the duty, would act as a bounty in favor of the foreign manufacturer, and prove speedily disastrous both to the American wool-grower and to the American woollen manufacturer.

“To balance the duties proposed upon wool, the executive committee of the woollen manufacturers claim, and endeavor to prove it to be essential to the preservation of their industry, that, for every cent of duty imposed on wool, four cents per pound must be charged on all woollens imported. It is also clear, that if the price is to be enhanced to the extent of the duty, the advance must be estimated alike on goods made of domestic as well as of foreign wool. Consequently, for every cent of duty imposed on wool, the American consumer will be taxed four cents per pound on his manufactured woollens; which tax on the present annual consumption of the country, viz: one hundred and fifty million pounds, would amount to the sum of six million dollars for each cent of duty imposed on wool.

“Assuming the existing rate of duty upon unwashed wool at six cents per pound, the present annual tax for the protection of this interest is, therefore, ($\$6,000,000 \times 6 \text{ cents} =$) $\$36,000,000$; but at the proposed rate, assuming eleven and a half cents as the minimum, this tax will be further increased ($\$6,500,000 \times 5\frac{1}{2} =$) $\$32,250,000$; or, in other words, the proposed tariff on wool and woollens will tax the community (if it should have the effect sought by those who propose it) to the extent of seventy-one millions two hundred and fifty thousand dollars per annum for the protection of an interest the whole annual value of whose product, as we have already shown, cannot be considered in excess of thirty-six millions of dollars gold valuation.”

Now, by the estimate of manufacturers, it requires four pounds of foreign wool to make one of cloth, and this estimate is recognized above, by assuming the duty of one cent upon a pound of wool to be four upon a pound of cloth. The estimate of 150,000,000 pounds of cloth is therefore equivalent to 600,000,000 pounds of wool per annum.

The following errors are included in this statement:

Error first.—While the manufacturers estimate four pounds of foreign wool to one pound of cloth, they reckon but two and one-sixteenth pounds of native wool to one pound of cloth. As our present wool “clip,” by the estimate of the Commissioner, is 100,000,000 pounds, it would make 48,500,000 pounds of cloth, and yet he counts it all as foreign wool, of which 194,000,000 pounds

would be required to make the same quantity of cloth. He therefore reckons one cent per pound of tax upon 94,000,000 pounds more wool than we should use if his assumption of 150,000,000 pounds of cloth consumption were correct. Nearly one-sixth of the estimated tax on consumers, or about \$12,000,000, is therefore disposed of by the exposure of this minor error.

Error second.—Allowing for the error above, affecting the calculation of the annual tax upon consumers, the Commissioner estimates the annual consumption of wool at 506,000,000 pounds, divided as follows :

Domestic supply.....	100,000,000 lbs., making	48,500,000 lbs. cloth.
Foreign supply.....	406,000,000 lbs., making	101,500,000 lbs. cloth.
Total.....	506,000,000 lbs., making	150,000,000 lbs. cloth.

To show the absurdity of the assumption that this country produces only one-fifth of the quantity of wool required, the following statistics, the general accuracy of which no one acquainted with the facts will seriously question, are given, showing very nearly, the actual amount of wool manufactured or imported from July 1, 1861, to July 1, 1865, comprising almost exactly the period of the war :

DOMESTIC SUPPLY.

Clip of 1861.....	55,000,000 lbs.
Clip of 1862.....	67,500,000 lbs.
Clip of 1863.....	82,500,000 lbs.
Clip of 1864.....	95,000,000 lbs.
Total.....	300,000,000 lbs.

IMPORTATIONS OF WOOL.

Years.	WOOL.		SHODDY OR FLOCKS.	
	Pounds.	Dollars.	Pounds.	Dollars.
1862.....	41,654,241	6,424,767	6,291,077	422,376
1863.....	71,917,754	11,772,064	7,867,601	581,234
1864.....	87,193,462	14,595,140	8,133,391	621,514
1865.....	40,372,075	6,201,108	4,863,064	410,395
Total.....	241,137,532	38,993,079	27,155,133	2,055,519

This is the amount of wool bearing a duty which has been imported in this period. In addition, the amount introduced free under the reciprocity treaty with Great Britain is as follows :

Years.	Pounds.	Dollars.	Cents per pound.
1862.....	1,916,785	569,839	29.7
1863.....	1,980,053	781,867	39.5
1864.....	3,202,642	1,328,851	41.4
1865.....	3,486,079	1,527,275	43.8
Total.....	10,585,559	4,207,832	39.6

The total foreign supply of our woollen manufactures in the four years reported was, therefore, as follows:

	Pounds.	Cost.
Dutiable wool	241, 137, 532	\$38, 993, 079
Free from Canada	10, 585, 559	4, 207, 832
Free in 1862 from other countries	304, 825	55, 539
Shoddy	27, 155, 133	2, 055, 519
Total	279, 183, 049	45, 311, 969

Statement of woollens imported for four years ending June 30, 1865.

	1862.	1863.	1864.	1865.
Woollen cloths and shawls	\$5, 547, 644	\$5, 147, 404	\$10, 698, 035	\$5, 257, 819
Blankets	1, 945, 707	1, 297, 864	749, 793	838, 741
Woollen and worsted yarns	372, 523	333, 011	434, 549	393, 130
Delaines and dress goods	17, 229	1, 744, 639	10, 069, 768	7, 817, 139
Carpets	466, 596	1, 016, 562	1, 658, 380	471, 659
Flannels	30, 798	.....	457, 410	83, 329
Felt and lasting	68, 485	.....	102, 910	87, 213
All others	6, 435, 412	10, 822, 145	7, 968, 491	5, 398, 533
Total	14, 884, 394	20, 411, 625	32, 139, 336	20, 347, 563

Total woollens imported, 1862	\$14, 884, 394
Total woollens imported, 1863	20, 411, 625
Total woollens imported, 1864	32, 139, 336
Total woollens imported, 1865	20, 347, 563
Total	87, 782, 918

This amount of woollens, upon the authority of the president of the Ohio Wool Association, is equivalent to 220,000,000 pounds of wool.

The grand total, then, of wool obtained and woollens imported in four years represents the following amounts of wool:

Domestic supply	300, 000, 000 lbs.
Foreign importation	279, 183, 049 lbs.
Equivalent in woollens imported	220, 000, 000 lbs.
Total	799, 183, 049 lbs.

Or almost exactly 200,000,000 pounds per year, instead of 506,000,000 pounds required by the Commissioner's estimates, or 600,000,000 pounds upon which consumers' tax for protection was based.

So here is another reduction of that tax, amounting (in round numbers) to thirty-six millions of dollars, in addition to twelve millions in *error first*—a miscalculation of forty-eight millions of dollars, and less than twenty-four millions left.

The extravagance of this estimate of woollens requiring 506,000,000 pounds of wool annually may be again shown by reference to consumption in former years. The manufactures and importations for a series of years preceding the war scarcely equalled an average of four and a half pounds to each individual. Mr. Randall's estimates never exceeded this quantity. During the war, as is shown

above, the supply of wool was eight pounds to each individual, (200,000,000 pounds to 25,000,000 people in loyal States;) but the *consumption* was scarcely more than seven pounds, as an immense amount of domestic wool and woollens remained in the hands of wool merchants, manufacturers, and wholesale and retail traders, and in government stores on the first of July, 1865.

Thus the average consumption was raised from four and a half pounds to seven pounds, or fifty-five per cent. through the waste of war and the scarcity of cotton. The Commissioner's estimate would be equivalent to fifteen and a half pounds, or three times as much as is required for ordinary consumption. Even a heavy increase, from a growing preference to wearing woollens, would not necessarily require more than six pounds to each individual.

Again, the Commissioner in his estimate, heretofore quoted, divides the woollen consumption into two portions as follows :

Foreign woollens	33, 000, 000 lbs., requiring	132, 000, 000 lbs. wool.
U. S. manufactures.....	117, 000, 000 lbs., requiring	468, 000, 000 lbs. wool.
<hr/>		<hr/>
Total.....	150, 000, 000	600, 000, 000 lbs. wool.
<hr/>		<hr/>

This is his estimate, for he assumes four pounds of wool in the dirt for one pound of cloth, in estimating a tax of one cent per pound upon wool, to amount to four cents per pound for cloth, (and the manufactures make the ratio the same,) and upon this estimate he figures a tax for wool protection of \$71,250,000. If his premises were correct, and all this 150,000,000 pounds of woollens were made of foreign-grown wool, it would be true that we must have, in some shape, a yearly supply of 600,000,000 pounds of wool. But he forgets that 100,000,000 pounds of this is native, $2\frac{1}{6}$ pounds of which will make a pound of cloth. Though he does not fail to use this error in swelling his tax, let it be deducted in ascertaining how much wool our manufacturers must seek abroad on his own hypothesis. Then the statement would read :

United States wool....	100, 000, 000 lbs., producing	48, 500, 000 lbs. cloth.
Foreign	274, 000, 000 lbs., producing	68, 500, 000 lbs. cloth.
<hr/>		<hr/>
Annual manufacture...	374, 000, 000	117, 000, 000 lbs. cloth.
<hr/>		<hr/>

Where do our manufacturers obtain 274,000,000 lbs. of foreign wool ?

This is almost equal to the total importation of four years of war, and lacks but little of the entire importation of *seventeen years* of peace, from 1841 to 1857 inclusive, which amounted to 283,146,923 lbs.

Where is all this wool obtained ? Not of Great Britain. She imports little more than 200,000,000 pounds per annum, and manufactures most of it. Not of South America. The most of hers goes to Great Britain, and nearly all of that produced in the wool-growing colonies of South Africa and Australia.

The foreign wool of Great Britain, in 1865, from official figures, was as follows :

Imports	209, 364, 249 lbs.
Exports of foreign and colonial.....	82, 443, 755 "
<hr/>	
Remaining for consumption.....	126, 920, 494 "
<hr/>	

If the vast manufacturing system of Great Britain consumes but 126,920,494 pounds of foreign and colonial wool, will the special commissioner tell how our woollen manufacturing interest has attained so surpassing a magnitude, and how it is to obtain more than twice as much foreign wool as the British manufactures require ?

But the whole estimate is a grand blunder. This country needs now scarcely more than fifty million pounds of cloth, and not more than one hundred and seventy million pounds of wool. Our manufacturers are now doing little, and some of our wool-growers have two or three clips on hand. There is to-day, with the spring clip, as much clothing-wool in the country as we need to manufacture until shearing-time in 1868; and in three years, with proper protection, our wool-growers can easily produce every ounce of wool needed, carpet wools and all.

This strange misstatement of the revenue report, which is not indorsed by any intelligent manufacturer, or any association, is calculated to produce two results:

1. Misrepresent the amount of taxation possibly resulting from protection.
2. Create the impression that we need at least five times as much foreign wool as there is any occasion for.

Error third.—The hypothesis that the duty will necessarily increase the price of wool and cost of cloth by the full amount of such duty. Free-traders usually assume that it does, and they very frequently *prove*, for their own purposes, from admitted facts, that it does not. In another portion of the revenue report it is admitted that the increased duty of last summer did not increase the price of wool. If such result has just occurred, and often before, with what propriety can it be assumed that it never will again? But it is no part of the present purpose to discuss this question.

It has been shown that two-thirds of the assumed cost of the proposed duty on wool is based upon over-estimates, reducing \$71,250,000 to \$23,750,000. Unless the assumption of increased price should be more accurate than the estimate of consumption, there would be little left of the remaining sum to act as a bugbear to consumers of woollens.

INSECTS INJURIOUS TO COTTON PLANTS—NO. 6.

THE RED-BUG, OR COTTON-STAINER.

(*Dysdercus suturellus*. H. SCHF.)

This destructive insect is found by millions in East Florida on the cotton plantations, where it does immense damage by staining the fibre of the cotton in the bolls, and rendering it unfit for use where pure white fabrics are required. The specimens figured were found near Jacksonville, in October, on the open bolls, under the dried calyx, congregating together on the dead leaves under the plants, on rotten logs, or decayed wood. Several of the open bolls were actually red with these insects, exhibiting every stage of growth from the larva to the perfect insect, all clustered together in such masses as almost to hide the white of the cotton itself. The beak or rostrum is four-jointed, with the end blackish, and when not in use is recurved under the thorax, which is somewhat triangular in shape, with the anterior part red; a narrow, distinct band of whitish-yellow divides the thorax from the head; the posterior part is black, edged between the thorax and wing-cases with whitish-yellow; the scutellum is triangular, red, and edged with a distinct line of whitish-yellow on each side and partly down the centre of the wing-case; the elytræ or wing-cases are flat, brownish-

black, and containing two distinct x-shaped whitish-yellow lines on them, intersecting each other near the centre; the wing cases are also edged with a distinct yellowish line as far as the x. The body is flattened, and in the female projects on each side beyond the wing-cases, showing the bright red of the abdomen, and contrasting with the dark color of the wing-cases. The under wings are hidden under the upper wing-cases, and are transparent, veined, and of a yellowish color, clouded with black. The thighs of the fore legs are somewhat spiny near the tibiæ, and of a red color. The tibiæ and tarsi are black; the under part of the body is bright red, with rings of yellowish-white running round it on the edge of each segment.

The female produces about one hundred eggs; the young larva is completely red, almost scarlet, with distinct whitish-yellow bands around the body, on the edge of each segment. The thighs are red, with the tibiæ, tarsi, and antennæ blackish.

The pupa differs only in size, and in having the unformed wing-cases very small and black, contrasting strongly with the vivid red of the body:

The perfect male is about three-fifths of an inch in length, and the female about seven-tenths of an inch, from the head to the end of the abdomen. They are similar in shape and color, differing only in size. The head and eyes are red, the antennæ black, with four long joints.

The following communication on the subject of this insect was received from Mr. B. Hopkins, of Jacksonville, a practical sea-island planter, of nearly thirty years' experience:

"The 'red-bugs,' or, as they are sometimes properly denominated, the 'cotton-stainers,' generally make their appearance about August, or late in July, which is near the usual season for cotton to begin to open. They can readily be distinguished from other bugs, harmless in their nature, by their being of a red color, and more sluggish in their movements. The nearer the fruit advances towards maturity, the more injury they do to the cotton. The pod, or boll, is perforated by this bug. Whether the staining matter is imparted to the fibre of the cotton during the perforation directly or by a slow process, diffusing itself with the sap abounding at that time in the pod, is not yet ascertained. I am of the latter opinion, from the fact that almost the entire product of the boll is discolored when it opens, which does not seem at all to cause a premature development. As winter approaches, they gradually retire, and take refuge among the logs, or burrow into the soil at the root of the cotton-plant, where they hibernate. After a wet season in winter, they may be found in hundreds on the sunny side of the stalks, enjoying the genial atmosphere, until towards evening, when they again retire. They can be kept down very easily, when there are not more than five acres planted to the hand.

"I have been in the habit of offering a reward every night to the negro that brings in the greatest quantity, each of whom is furnished with a pint bottle suspended across the shoulders, into which, as they pass along picking the cotton, they deposit all they can discover. In many instances, I have seen the bottle filled by one negro in a day. They may also be greatly reduced, by destroying them when they come out in winter, in their half-torpid state; a torch of fire in that case is best. They may be buried a foot under ground, and most of them will still escape from their inhumation. If there should be stumps or trees in the fields, they should be burned, and that will generally reduce the quantity for a year or more. In fact, when they receive timely and proper attention, they need not be dreaded.

"No process that I know of can extract the stain produced in the bolls; it is indelible, and considerably reduces the price of the cotton in the market. These insects have been much on the increase for the last ten years, which I attribute to the excess in planting, as well as the want of proper efforts for their destruction."

It has been stated by other planters that the fœces of the insect produces the reddish or greenish stain, and that the red-bugs will collect where there are splinters or fragments of sugar-cane. Advantage has already been taken of this habit to collect them by means of small heaps of the chips of sugar-cane, when they may be destroyed by boiling water ; and as they also collect around piles of cotton-seed, they may thus be easily decoyed, and then killed, either by fire or hot water, when congregated. All stumps and dead trees standing in the field should be well burnt out. The experiment of destroying them by means of the crushed sugar-cane and poison has been tried ; but, as no report of the experiment has been received, it remains doubtful whether it can be recommended or not.

Total area, population, and statute acres under crops, bare fallow, and grass, and of cattle and sheep in each division of the United Kingdom of Great Britain.

Divisions.	Total population in 1861.	Total area in statute acres.	ABSTRACT OF ACREAGE UNDER CROPS, BARE FALLOW, AND GRASS.						Total of estimated ordinary stock of cattle.	Total number of sheep as returned in 1866.
			Total acreage under all kinds of crops.	Under corn crops.*	Under green crops.†	Under bare fallow.	Under clover and other grasses under rotation.	Permanent pasture (exclusive of hill pasture.)		
England.....	18,954,444	32,590,397	22,761,833	7,400,170	2,750,008	760,979	2,296,087	8,998,027	3,420,044	15,124,541
Wales.....	1,111,780	4,734,486	2,284,674	521,074	139,265	109,878	256,732	1,257,721	546,966	1,668,663
Scotland.....	3,062,294	19,639,377	4,158,360	1,366,540	663,257	91,080	1,141,415	893,066	968,637	5,255,077
Total for Great Britain....	23,128,518	56,964,260	28,704,867	9,287,784	3,552,530	964,937	3,694,234	11,148,814	4,935,647	22,048,281
Ireland.....	5,798,967	20,322,641	15,549,796	2,173,433	1,482,091	28,060	1,600,495	10,002,058	3,742,932	4,270,027
Isle of Man.....	52,469	180,000	82,902	27,266	12,208	8,357	25,309	9,762	18,657	55,954
Channel Islands—Jersey.....	35,613	28,717	20,357	3,142	5,253	2,352	3,205	6,205	12,037	517
Guernsey, &c.....	35,365	17,967	11,999	2,041	2,938	372	886	5,762	6,976	1,214
Total for United Kingdom.	29,070,932	77,513,585	.....	11,493,666	5,055,020	1,004,278	5,324,119	.....	8,716,279	26,375,993

* Under corn crops are included wheat, barley, oats, rye, beans, and peas.

† Under green crops are included potatoes, turnips, and swedes, mangold, carrots, cabbage, kohl, rabi, rape, vetches, lucern, and any other crops except clover or grass.

Population, area, and acreage under crops and grass in the United Kingdom and in various foreign countries.

Countries.	Date of acreage returns.	Population, according to the latest returns.	Total area, in English statute acres.	Total acreage under crops and vineyards, exclusive of grounds.)	Average (in English statute acres) under corn crops.							Other kinds of grain.	Total under corn crops.
					Wheat, (including spelt.)	Barley or bere.	Oats.	Rye.	Beans and peas.	Mixed grain.	Buckwheat.		
Great Britain	1866	23, 128, 000	56, 964, 000	28, 704, 867	3, 385, 394	2, 237, 329	2, 759, 923	60, 077	845, 061				9, 287, 784
Ireland	1866	5, 799, 000	20, 323, 000	13, 519, 796	390, 474	152, 777	1, 697, 648	7, 753	14, 781				2, 173, 433
Total for United Kingdom, including Isle of Man and Channel Islands.	1866	29, 071, 000	77, 513, 000	42, 224, 663	3, 697, 635	2, 398, 485	4, 469, 297	67, 879	860, 370				11, 493, 665
Sweden	1866	4, 022, 000	107, 547, 000	10, 998, 000	115, 000	615, 000	942, 000	877, 000	194, 000	241, 000			2, 914, 000
Denmark proper	1861	1, 663, 000	9, 354, 000	5, 545, 720	140, 448	687, 179	811, 580	473, 591	64, 825		61, 431	76, 339	2, 315, 273
Wurtemberg	1865	1, 748, 000	4, 757, 000	3, 010, 833	544, 284	237, 004	317, 982	102, 162	18, 543		32	14, 781	1, 235, 708
Bavaria	1863	4, 807, 000	18, 067, 000	11, 138, 887	1, 043, 534	838, 779	1, 129, 704	1, 460, 789	123, 223		4, 456	9, 790	4, 601, 275
Holland	1861	3, 688, 000	8, 617, 000	5, 024, 300	194, 730	104, 315	263, 613	476, 984	129, 080		163, 323		1, 331, 015
Belgium	1856	4, 782, 000	7, 211, 000	4, 521, 377	894, 738	110, 130	541, 317	721, 492	143, 964	102, 585	60, 517		2, 484, 493
France	Latest returns.	37, 547, 000	132, 787, 000	97, 506, 251	17, 252, 366	2, 570, 853	8, 098, 631	3, 417, 278	1, 127, 832	1, 415, 273	1, 731, 546	1, 486, 933	39, 080, 735
Austria, (exclusive of Galicia, except Cracow, Bukowina, the Tyrol, and the military frontier.)	Latest returns.	34, 070, 000	145, 310, 000	52, 407, 589	3, 662, 164	2, 755, 415	6, 573, 921	6, 973, 008	182, 927	1, 749, 691	514, 722	3, 967, 260	26, 384, 108
Italy, (including Venetia)	Latest returns.	24, 681, 000	68, 747, 000	43, 524, 589				26, 980, 309				357, 403	27, 337, 802
Switzerland	1855	2, 524, 000	9, 945, 000	4, 962, 987				1, 435, 555					1, 435, 555

Population, area, and acreage under crops and grass, &c.—Continued.

Countries.	Date.	Acreage (in English statute acres) under green crops.				Bare fallow or uncropped arable land.	Clover and artificial and other grasses under rotation.	Permanent pastures, meadows, &c.
		Potatoes.	Turnips, parsnips, carrots, mangold, and beet root.	Other green crops, as rape, colza, &c.	Total under green crops.			
Great Britain.....	1866	498,843	2,417,744	635,943	3,552,530	964,337	3,694,924	11,148,814
Ireland.....	1866	1,050,419	341,120	90,552	1,482,091	28,060	1,000,495	10,002,058
Total for United Kingdom, (including Isle of Man and Channel Islands)	1866	1,555,609	2,770,612	728,799	5,055,020	1,004,278	5,394,119	.....
Sweden.....	1866	334,000	.....	.....	2,850,000	.....	.....	4,900,000
Denmark proper.....	1861	69,176	5,635	32,445	107,256	405,064	1,760,403	937,525
Wurtemberg.....	1865	107,948	60,210	229,587	457,745	253,845	194,906	*808,629
Bavaria.....	1863	649,735	162,468	206,422	1,018,625	1,172,133	720,900	3,025,554
Holland.....	1864	265,987	79,618	184,734	530,339	61,556	56,957	3,034,642
Belgium.....	1856	369,850	81,947	257,327	709,124	159,112	396,787	771,870
France.....	Latest returns.	2,048,364	890,195	1,379,823	4,318,382	14,091,392	6,331,820	33,683,922
Austria, exclusive of Galicia, (except Cracow,) Bukowina, the Tyrol, and the military frontier.	Latest returns.	1,308,148	46,817	454,512	1,809,477	Not stated...	1,302,434	28,911,570
Italy, (including Venetia).....	Latest returns.	Not ascertained	.....	.....	.....	Not stated...	.....	16,186,787
Switzerland.....	1855	Included with acreage under corn crops.	.....	.....	.....	.....	.....	3,527,431

* Including hill pasture.

PARIS EXPOSITION.

DEPARTMENT OF AGRICULTURE,
Washington, January 25, 1867.

The following circular has been issued from this department. The small appropriation of \$5,000 towards this object was passed by the Senate, but rejected by the House:

SIR: Your prompt and active co-operation is respectfully solicited in furtherance of the object of the following joint resolution of Congress, approved January 31, 1867:

[PUBLIC RESOLUTION—No. 2.]

“A RESOLUTION to provide for the exhibition of the cereal productions of the United States at the Paris Exposition in April next.

“*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled*, That the Commissioner of Agriculture be, and he is hereby, instructed to collect and prepare, so far as practicable, and with as little delay as possible, suitable specimens of the cereal productions of the several States of the Union for exhibition at the Paris Exposition, and forward the same in proper order and condition for shipment to J. C. Derby, agent of the United States government for the Paris Exposition, at New York: *Provided*, That it shall require no further appropriation from the public treasury.”

An exhibition such as is proposed of the finest samples of the best varieties of wheat, corn, and other cereals, would command the admiration of Europe, as it would assuredly arouse the pride of all Americans, and I regret that this department has not been authorized to make collections for this purpose until the present time. The Exposition opens on the first of April, and collections should be sent in a few days from the reception of this request, to be in season for proper arrangement, packing, forwarding to New York, and transportation to Paris. You will render the country essential service by immediate and judicious action in this matter.

It is desirable that *small* packages of the finest samples of the best varieties of such products of your neighborhood should be forwarded, by mail, in packages of two pounds or less, each distinctly marked with name, donor, local name, and county and State in which it was grown.

Such packages, addressed to the Commissioner of Agriculture, can be sent without postage from any post office in the United States. As it will be seen, the resolution makes no appropriation for this purpose; therefore, parcels should not be sent by express in any case, unless at the expense of communities represented.

Very respectfully,

ISAAC NEWTON, *Commissioner*.

EXTRACTS FROM CORRESPONDENCE.

THE MONTHLY REPORT.

South Parsonfield, Maine—Your monthly reports give me just the information I have wanted for years. Knowing the supply and demand, I am able to sell at my own price, and we can also foresee what will probably be wanted next year. Give practical farmers facts and let gentlemen of leisure theorize.

In behalf of working farmers I will thank you for not *berating* us, as most agricultural writers do, for our ignorance and stolidity. We could improve our farms if it would pay, but most of us need present profits.

FRUIT CULTURE IN MARYLAND.

Baltimore County, Md.—This county contains a great deal of unimproved land of good quality, though situated so near the large city of Baltimore, where a market is found for anything the husbandman can raise. The waste and unimproved lands will be rapidly turned into cultivated farms, pomological gardens, &c. The great enemy to agriculture and improvement was slavery, and marked changes must take place where the institution existed. It is worthy of note that the greatest care is being taken by farmers and others in regard to fruit culture, and an enormous number of young orchards have been planted with apples. The grape is also receiving much attention, while the pear, so long neglected, is not behind in the list.

HOG CHOLERA.

Bedford, Indiana.—The hog cholera has been more than ordinarily destructive in this county the present season, and unless some remedy be devised against its ravages the farmers will be compelled to abandon pork-raising as too hazardous.

EXPERIMENTS WITH FERTILIZERS.

Hamilton county, Ohio.—I give you a statement in reference to experiments tried the last season, but first let me say that the last winter was the worst on fall grain I have experienced in thirty years, the ground being dry and bare and the grain seriously injured. I soaked my seed wheat in a solution of blue vitriol and salt. The grain was badly affected with smut. It came up strong and grew well, stood the winter, and gave nearly a full crop, while one-half the wheat in the neighborhood scarcely paid for cutting. For my potatoes and corn I used super-phosphate of lime, a small handful in the hill, at the rate of about two hundred pounds to the acre; land naturally rich, upland soil; planted the potatoes in alternate rows with the lime; amount of land, one acre. Result, 200 bushels of potatoes with the lime, 100 bushels without it. I thus obtained 100 bushels of potatoes for three dollars, the cost of the lime, as it cost no more to cultivate with than without the lime. The experiment with the corn gave about one third more with the lime than without it.

POTATO ROT.

Clinton county, Ohio.—Our potato crop bid fair to average 200 bushels to the acre, but the wet weather in the latter part of the season caused them to rot. It was not the common potato rot, but an incident attributable entirely to a superabundance of water. Over blind ditches and on our dryest ground they did not rot.

HARDY GRAPES, UNDERDRAINING, ETC.

Sandusky, Ohio.—In my vineyard last season the following varieties of grapes had fair crops in about the order named: York, Madeira, Oporto, Logan, Clinton, Concord, Hartford Prolific, Creveling, Delaware, and Catawba. These vines had no protection, though the thermometer runs as low as 12° below zero. * * * We seldom or never fail of a crop of apples in this locality. I exhibited at our State fair 150 varieties and took the first premium. The apple tree grows so luxuriantly and bears so profusely here that it is hardly appreciated, and the quality is far superior to that grown in the eastern States. I have been much surprised when travelling in England to find apples with so little flavor, and

cider tasting like vinegar and water. In Germany and France they are not much better. The orchards have not the luxuriant growth and fine appearance of our western orchards. * * * I have been engaged in underdraining for the last ten years, and as the result of my experiments I will mention one lot of twelve acres, the most of which was too wet to raise corn, except in very favorable seasons. This land was thoroughly underdrained, and I have since taken two splendid crops of corn and one fine crop of barley, (forty bushels per acre,) and then the lot was ploughed deep once and put into wheat early and last year, bad as the season was, harvested twenty bushels of fine wheat to the acre. The expense of draining was less than \$200 in the way I worked it, being mostly done in the winter, when I could spare my hands the best. It will be seen that one-half of last year's crop more than paid the expense of the underdraining. Another instance: A lot of about fifteen acres was partially drained and put in corn the past year. The portion of the land that was drained yielded nearly one hundred bushels of ears to the acre, while the part undrained produced scarcely fifty bushels. * * * My experiments prove that most of our land, when thoroughly underdrained and sowed early, will generally produce good crops of winter wheat.

WHEAT CROP IN NEBRASKA.

De Witt, Cuming county, Nebraska.—In recording the final results of the year just closed, it may not be uninteresting to give a few facts and figures of the most remarkable wheat crop ever harvested in this county. Although the average yield per acre is only $30\frac{1}{2}$ bushels, it would have been much higher were it not for a number of weedy farms having light yields, which reduced the total product. The best yield was that of a farm on Rock Creek bottom. The owner informs me that he sowed thirteen bushels of seed and harvested four hundred and forty bushels, or at the rate of forty-six bushels per acre. We raised over thirty thousand bushels of wheat in this county the past year, with a population of five hundred souls.

OPENING FOR CAPITAL AND ENTERPRISE.

Madison county, Georgia.—Northern capitalists are coming into the State and engaging in manufacturing, agriculture, mining, &c. The resources of Georgia are varied and incalculable. Nearly all the products which make up the necessities and luxuries of life are found within her limits. What she needs is improved systems of husbandry and capital for manufacturing. With these she would soon become one of the first States in the Union. Now that slavery is abolished, the people will doubtless become more settled and cultivate less land, but do it more thoroughly. The State presents fine openings for men of industry, skill, and capital. So genial is the climate that two crops are often made upon the same land—wheat and corn, or wheat and sweet potatoes.

A SOLDIER-FARMER IN MISSISSIPPI.

Lauderdale county, Mississippi.—I came here a discharged northern soldier, totally ignorant, practically, of even the first principles of farming. Could not commence operations until February, and then with such hands as I could pick up. The plantation had not been worked for several years, was covered with logs, overgrown with briars, and fences gone. Yet, with all this, I succeeded in planting about 200 acres. Oats proved a failure; castor beans, ditto; corn, an average of ten bushels to the acre; cotton averaged a bale of 500 pounds to each $3\frac{1}{2}$ acres, peas, sufficient to pay for sowing; sweet potatoes, several hundred bushels. My expenses for labor, feeding stock, &c., amounted to \$3,500, against which I have 34 bales of cotton, 400 bushels of corn, \$100 worth of sweet potatoes, and \$150 increase in value of mules. So I have no cause to complain of

my experiment. My plantation is in far better condition now, my hands are hired and work already commenced for another year. I shall cultivate about 400 acres this year, and devote it entirely to cotton.

SCARCITY OF LABOR.—HOPS AND INDIGO.

Grenada, Mississippi.—We stand greatly in need of labor, and until that need is supplied but little prosperity can be looked for. I am tenantrying my farm as rapidly as I can with white tenants, upon the English plan. I shall place my vineyard, orchard, and garden in the hands of a vintner, pomologist, and gardener, on the same principle, as soon as I can procure a reliable one. I do not expect to make much progress this year, further than initiating, but the next I hope to have my system in full blast. Two articles of production which have never received attention here can be grown to perfection and made remunerative, to wit, hops and indigo. When enterprise and capital take hold of our soil, no portion of the globe will yield richer rewards, no country develop more rapidly, none will excite a more emulous pride.

FREED LABOR IN NORTH CAROLINA.

Mocksville, North Carolina.—I find it decidedly better for both the white man and the negro that the latter has been freed. My freedmen are doing much better for me now than when they were slaves. They are supplied with the plough, stock, and a house to live in, with wood furnished gratis; also their blacksmith's bill paid. I give them one-third of all they make, and have no trouble with them. They work well without overseer or driver, and having an interest in the crop, take corresponding interest in the work. If the negro knew how to economize, he would soon be a better liver here than many of the northern laborers. Our staples, cotton and tobacco, will always bring fair prices in cash. One great misfortune with the negro is that they do not know how to trade, being easily imposed upon. A good many also will not work as long as they have anything to live upon. I think they will find out before long that it is absolutely necessary for a man to work and take care of what he earns.

Wilmington, North Carolina.—Our farmers, generally, are much depressed. Their exertions during the year 1866 have not been crowned with success, and they begin the new year under very discouraging circumstances. Labor is, if possible, more embarrassed and discouraging than last year, and is more than ever becoming the great question of the south; the freedmen are indisposed to contract or hire on any terms, and seem to be waiting for some great donation of land or other munificence from Congress or other source. In the mean time vagrancy and crime increase among them, and land-holders, wearied in the difficulties of the past, and the perplexities and discouragements of the present, are gloomy in respect to the future. But in all this confusion and poverty they welcome any cheering ray of hope that the present may evolve or the future promise.

LABOR IN ALABAMA.

Moulton, Alabama.—Our laborers are chiefly freedmen, and in most cases they are furnished with land and ploughing stock, and work the plantations on shares, usually one-half. In many instances this year they have made really nothing, after paying expenses. Some first-rate hands receive \$15 per month and board, others not more than \$10 and board, and a few as low as \$6. Everything in this line is very unsettled as yet.

FARMING IN UTAH.

Logan, Cache county, Utah.—Farming in Utah and farming in the eastern States are entirely different operations, and an eastern farmer coming here would have to learn his business over again. Cultivating land by irrigation causes

this great difference. A farmer has to learn *how*, and especially *when*, to irrigate his crop, how to lay out his land to the best advantage, how to lay out and make sluices, &c., and to become familiar with the various kinds of soil, which require great difference in treatment, in ploughing, and irrigating. * * * Our wheat crop would have averaged thirty-five or forty bushels per acre had it not been for rust, which struck it in consequence of the unusual wetness of the season.

CASUAL NOTES.

The cotton worm.—The New York Mercantile Journal, in an article on the cotton worm, and the means of preventing its ravages, says:

"A Louisiana French paper suggests a method, commonly adopted in France, to protect the cabbage plants from insects. The larvæ are destroyed by sowing among the rows a certain quantity of hempseed, and, probably, placing layers of hemp between them would answer the same purpose.

"The subject is worthy of the investigation of the ablest governmental agencies that can be brought to bear upon it, if the planters themselves have not enterprise enough to take the proper measures."

The utility of hemp sown around or among cabbages to prevent the depredations of insects is said, by an English author, not to be owing to any noxious or repellant quality of the plant to the caterpillars, but merely because birds are attracted by the shelter and seed afforded by the hemp, and can feed undisturbed upon caterpillars and other insects in the garden.

Rice in South Carolina.—Georgetown county, South Carolina.—Since my last I have in figures, from the mills, as follows: Tierces of clean rice prepared for market, of the crop of 1866 up to January 1867, twelve hundred and thirty-six bushels. Estimate of the entire crop for market 6,000 tierces. A larger portion of seed will be required and has been reserved for the crop of 1867, but this, added to the estimate of 6,000 tierces, (equal to 132,000 bushels,) will bring the crop of 1866 to less than twenty bushels to the acre. * * * On the plantations the depredations upon stock continue most provokingly, and although cholera has destroyed a large proportion of hogs, and sheep have been decimated by distempers, by far the greatest loss of hogs, sheep, and cattle has resulted from larceny. The whites are not exempt, but chiefly by the freedmen have the depredations been committed. * * * There is a deficiency of labor for the tide-lands, and at least 3,000 hands could find employment in this district the present year, in rice culture alone, at ten dollars per month, with house rent, fuel, and rations for themselves, but not for their families. Owing to the scarcity of capital, farms are worked, as last year, on shares, the laborers in no instance getting less than one-third the gross product, and in some cases nearly one-half, (with privileges equal to one-half the gross product.) And yet the tide of migration has set in, and many have left for cheaper and less productive lands, and thousands of acres of the richest alluvial soil on this continent are doomed to abandonment.

Colorado Agricultural Society.—The Agricultural Society of this Territory is enterprising and progressive. The first fair was held last season on a forty-acre tract near Denver, which was purchased and enclosed with a substantial concrete wall, and improved with convenient buildings and fixtures, all costing about \$12,000. Premiums amounting to \$500 were given, and the receipts of the fair were \$3,500. The officers of the society give a favorable account of the agricultural capabilities of the Territory in the following paragraph:

"Judging from the agricultural productions placed upon exhibition, we are of the opinion that uplands on the plains produce equally as good and heavier crops of grain than the low bottom lands. Also, that as fine garden vegetables can be grown in the mountains, almost to the very foot of the snowy range, as upon the plains. These conclusions are arrived at from samples of wheat and corn grown upon the divide between the Platte river and Clear creek, in Jefferson county, and specimens of turnips, potatoes, &c., from gardens as far in the mountains as the immediate vicinity of Georgetown, in Clear Creek county."

The cedars of Lebanon.—Rev. Mr. Jessup, a missionary from the United States, has discovered new groves of cedar trees, five in number, three of them of great extent, east of Ain Zabalteh, in the southern Lebanon. This grove lately contained 10,000 trees, and had been purchased by a barbarous sheik from the more barbarous Turkish government for the purpose of trying to extract pitch from the wood. The experiment failed; the sheik was ruined, but the result was the destruction of several thousand trees. One of the trees measured fifteen feet in diameter, and the forest is full of young trees, springing up with great vigor. He also found two small groves on the eastern slope of Lebanon, overlooking the Bukaá above El Medrúk, and two other large groves, containing many thousand trees, one above El Barúk, and another near Maásiv, where the trees are very large and equal to any others; all are being destroyed for firewood. Still another grove has been discovered near Dúma, in the western slope of Lebanon, near to the one discovered by Tristram himself.

The history of the potato—In a paper recently read by a Mr. Crawford in London on "the relation of plants to ethnology," a very short but complete account was given of the introduction of the potato into Europe. The potato is still found on the western slopes of the Andes, the tubers, however, being no larger than the common filbert. Even the Indians, said Mr. Crawford, cultivated the potato before the arrival of the Europeans. It was first brought from America to Ireland, where it was cultivated in 1656; but it is said to have been introduced into Spain and Portugal even before that date. From Ireland it found its way to the Low Countries and to Germany, and from Spain it reached Italy and France. It is an object of cultivation in Asiatic countries only where Europeans have colonized or settled, and there chiefly for their consumption, and only since the beginning of the present century. It is successfully cultivated in Australia and New Zealand, where there is no esculent farinaceous root at all, not even the yam, the taro, or the manioc.

Quality of department seeds.—A correspondent in Iron county, Utah, writing relative to the quality of seeds distributed from this department, makes the following exhibit of the remarkable increase of wheat, oats, and barley: Ten ounces of spring Mediterranean wheat, sowed in drills on the 15th of May, and harvested in about 90 days, yielded 37 pounds, an increase of 59-fold; 8 ounces of white Swedish oats produced 76 pounds, being a yield of 152-fold; 1 ounce of two-rowed barley returned 15 pounds, or 240-fold increase. The soil was a sandy loam, supplied with a liberal dressing of cattle manure ploughed in. It is claimed that two crops of oats may be grown from one sowing, if put in early, and irrigated immediately after cutting the first crop.

Cuming county Nebraska.—The white Mediterranean (winter) wheat which you sent me in the fall of 1865 came to hand too late for sowing time, and, as winter wheat does not do well in this locality, I at once decided to sow it in the spring, and, if possible, make spring of it. I accordingly sowed it last spring. The result was gratifying; the two-thirds of a quart sowed yielded three pecks of good wheat. The white Swedish oats you sent me are a decided success. I raised over one bushel from the package—a little less than a quart—they are the best oats I have ever seen; are very heavy, weighing forty pounds to the bushel.

This county raised over *thirty thousand* bushels of wheat this year, with a population of a little over five hundred souls; and over half of it was raised by farmers who came here from Wisconsin less than two years ago, and settled on the prairie under the homestead law. The answer above stated is not guess work, but taken from the thresher's book. Such splendid wheat as was raised here the present year would dazzle the eyes of those who said Nebraska was a desert. The yield run as high as *forty-six* bushels to the acre.

Crops in West Virginia.—Our correspondent in Berkeley county, West Virginia, says that several cases of hog cholera have occurred there recently. He gives a statement of acreage and quantity of crops, and states that the quality of wheat was much better in 1866 than in 1865, weighing sixty-one pounds against fifty-six pounds per bushel. The following exhibit is made for the county:

Product.	1860.	1866.					1865.
	Quantity.	Quantity.	No. of acres.	Average per acre.	Average price.	Total value.	Total value, same as in 1865.
Wheat bush.	237,576	121,345	18,665	6.5	2.85	\$345,833 25	\$280,614.25.
Indian corn. do..	275,523	465,175	15,605	29.89	55	255,846 25	291,891 60
Oats. do..	76,176	44,475	1,860	23.9	36	16,011 00	17,668 24
Rye do..	18,672	3,270	545	6	1.10	3,597 00	3,118 50
Buckwheat. do..	1,074	845	65	13	90	760 50	
Hay tons.	8,031	2,670	2,750	97	17.50	46,725 00	57,855 00
Sorghum .. galls.		580	10	58	1.00	580 00	
Total.....			39,500			670,693 50	651,147 59

The cattle plague—The cattle disease has disappeared completely from Switzerland, and the prohibition decreed by the Italian government against the importation of cattle has been removed.

The *rinderpest* having broken out afresh in Austria, the Bavarian government has refused to allow a large number of oxen intended for the English market to cross the frontier.

The *Farmer* (Scottish) of November 14, 1866, says: What we trust will prove the last cattle plague return was issued on Thursday. It reports that last week there were but two attacks in England, one in Warwickshire and one in Yorkshire.

At a recent rent audit, the tenants on the estate of Mr. J. E. Heathcote, of Opedale Hall, were allowed ten shillings in the pound upon the losses they have suffered from the cattle plague. This allowance is independent of what may have been received from the insurance association.

The total amount of the claims of the members on the funds of the Fifeshire Cattle Plague Association, on account of cattle lost by the cattle plague, before the passing of the cattle disease prevention act, exceeds £30,000, and the general committee have declared an interim dividend of 3s. per £1.

Casabianca Wool.—In the province of Casabianca, as in the rest of Morocco, the wool trade ten or twelve years since was confined to the limits of the district itself. It was only in 1858 that the export of wool took, in the province of Casabianca, as well as in the provinces of Chaouya and Urdegrah, such a development that in 1864 the shearing was double what it was in any preceding

year. It is estimated that the province will this year offer for export from 3,200 to 3,600 bales, or 8,000 cwt. to 9,000 cwt. The town of Casabianca is not merely the market on which the sale may be observed of the wool of the province of which it is the chief town. It is at Casabianca that there arrives, as at a general transit *entrepôt*, the wool of the provinces of Zanetta, Zieida, Medakara, Ouled-Ariss, Ouled-Zian, and Mediouna, all neighbors of Casabianca, and known under the generic name Chaouya. It is calculated that by drawing upon these sources of supply the Casabianca market might add about 25,000 cwt. to its exports.

METEOROLOGY.

NOVEMBER AND DECEMBER, 1866.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and amount of rain, (in inches and tenths,) for November and December, 1866, at the following places. The daily observations were made at 7 o'clock a. m. and 2 and 9 p. m.

[Compiled in the Department of Agriculture from the reports made by observers for the Smithsonian Institution.]

States and places.	NOVEMBER, 1866.						DECEMBER, 1866.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain & melted snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain & melted snow.
MAINE.												
		°		°	°	In.		°		°	°	In.
Steuben.....	16, 20, 21	52	26	9		5.76						
Lee.....							24	49	30	0	26.0	2.59
Barnard.....	30	55	26	17	34.2	4.21	24	46	31	-13	23.2	2.99
West Waterville...	8, 30	57	26	20	39.0	2.64	5	48	30	-9	25.6	2.37
Gardiner.....	30	57	26	16	39.1	3.18	5	48	30	-8	25.5	3.00
Lisbon.....						3.76			30	-14		3.55
Webster.....	16, 30	55	24, 26	10	37.1		4	50	30	-14	23.5	
Standish.....							4	50	29	0	21.8	2.55
Rumford Point.....	29	61	25, 26	18	37.3	4.38						
Cornish.....	29	63	26	13	35.0	3.28	7, 24	48	21	-9	23.8	3.66
Cornishville.....	29	62	26	17	37.1	3.58	24	49	20, 21	-2	24.9	4.06
Averages.....					37.0	3.85					21.3	3.10
NEW HAMPSHIRE.												
Stratford.....	16	58	26	12	34.5	4.60	24	44	21	-22	19.1	1.81
Shelburne.....	7, 20	54	26	16								
North Barnstead...	9	67	26	18	42.4	4.45						
Concord.....	29	67	26	12	40.4	3.23	5	56	21	-16	25.9	2.96
Claremont.....	29	67	26	11	38.0	1.25	7	49	20, 21	-8	24.0	4.73
Do.....	29	64	26	11	38.4		4, 5, 7, 24	46	21	-10	23.5	
Averages.....					38.7	3.41					23.1	3.17
VERMONT.												
Lunenburg.....	2, 29	68	8, 16, 17	28	46.8	3.25	7	60	29	-20	20.9	1.85
Craftsbury.....	29	58	26	14	34.6	4.88	4	44	21	-16	19.8	2.25
Randolph.....	29	60	26	9	36.6	4.08	5	48	21	-28	21.3	2.60
Middlebury.....	29	60	25	19	39.5	3.67	4	49	21	-13	23.5	2.58
Brandon.....							7	51	21	-12	25.4	1.87
Barnet.....	18	56	26	10	37.4	2.75	9	40	20	-20	27.7	1.00
Wilmington.....	8	58	26	7	37.5		7	45	21	-20	22.1	
Averages.....					38.7	3.73					23.0	2.03

Table showing the range of the thermometer, &c., for November and December.

States and places.	NOVEMBER, 1866.						DECEMBER, 1866.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain & melted snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain & melted snow.
MASSACHUSETTS.		°		°	°	In.		°		°	°	In.
Kingston	8	67	26	20	45.2	3.13	8	58	21	9	33.0	3.02
Topsfield	7	68	26	20	45.3	2.34	4	58	21	6	31.8	2.78
Lawrence	29	66	26	15	40.9	2.43	24	52	21	-7	29.0	3.16
Georgetown	29	67	26	12	42.7	.....	7	53	21	-6	27.4	.....
Newbury	29	68	26	13	40.9	.....	7, 24	52	21	-4	27.8	.....
North Billerica	29	68	26	8	41.4	.....	4	52	20, 22	0	27.1	.....
New Bedford	8	64	25, 26	22	43.8	2.55	6	54	21	2	31.7	2.99
Do.	9	64	26	15	43.9	3.36	24	55	21	3	31.7	3.73
Worcester	29	63	26	18	43.3	2.51	7	54	21	-3	28.2	3.73
Mendon	8, 28, 29	62	5, 26	19	42.2	4.60	8	53	21	-5	26.1	.....
Lunenburg	29	67	26	12	41.5	.....	7	51	21	-10	25.5	.....
Amherst	9	61	26	17	40.1	3.68	7	51	21	-4	26.3	3.57
Springfield	29	65	26	17	41.9	3.24	5	56	21	-6	27.6	3.30
Richmond	10	60	25	22	37.9	6.54	7	50	21	-14	23.5	11.25
Williams College ..	20	60	26	15	40.2	4.00	4, 7	49	21	-17	23.7	3.80
Averages					42.1	3.49					28.0	4.13
RHODE ISLAND.												
Newport	8, 9, 10	64	26	20	42.1	4.35	6	55	21	2	30.5	4.35
CONNECTICUT.												
Pomfret	8	62	26	18	40.5	4.22	8	55	21	-5	28.6	3.55
Columbia	9	72	26	18	46.2	.....	8	58	21	-6	30.3	.....
Middletown	9	64	26	17	43.8	4.34	5, 7	55	21	-5	29.8	3.31
Colebrook	29	67	26	10	38.7	.....	6, 7	48	21	-11	23.1	.....
Groton	15	68	26	20	45.8	3.68	8	54	21	-2	31.6	5.28
Averages					43.0	4.06					28.7	4.05
NEW YORK.												
Moriches	8	71	26	20	48.2	3.34	5, 7	62	21	10	35.3	5.94
South Hartford	9, 29	63	6	19	42.0	4.55	4	52	21	-14	25.1	3.62
Germantown	8	65	26	15	40.5	5.80	7	56	21	-16	26.5	6.30
Garrison's	29	63	26	18	41.5	4.04	4	52	21	-5	28.0	2.90
Throg's Neck	9	68	24, 25	26	45.4	.....	4	58	21	-0	30.2	.....
White Plains	29	63	26	21	44.7	.....					
Deaf & Dumb Ins'n ..	10	64	5	28	45.2	3.84	8	57	21	2	31.7	3.92
St. Xavier's College ..	8	62	26	27	46.7	2.95	7	55	21	3	33.3	2.47
Columbia College ..	8, 20	59	26	26	44.9	3.00	4, 7, 8	53	21	3	31.3	3.12
Flatbush	8, 20	61	26	21	44.5	2.89	4, 8	56	20	5	30.9	0.95
Newburgh	8	66	26	25	45.2	3.74						
Gouverneur	29	58	25	16	38.2	3.93	4	52	21	27	21.8	3.76
North Hammond	8, 29	57	25	18	38.8	6.78	4, 8	49	21	-20	21.1	6.11
South Trenton	8	54	25	21	38.6	5.34	8	44	21	-22	23.9	4.10
Oneida	9	69	24	14	39.6	7.36	8	56	21	-26	25.6	3.79
Houseville	29	59	25	9	36.2	8.10	4, 8	47	20	-13	21.5	4.01
Depauville	29	58	25	18	39.7	5.17	8	51	21	-18	25.2	4.07
Theresa						4.86			21	-27	.....	5.16
Oswego	29	59	25, 26	19	40.9	5.92	8	52	21	-15	26.5	7.28
Palermo	29	59	25	11	37.1	6.60	4	57	21	-22	23.4	6.05

Table showing the range of the thermometer, &c., for November and December.

States and places.	NOVEMBER, 1866.						DECEMBER, 1866.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain & melted snow.	Date.	Max temp.	Date.	Min. temp.	Mean temp.	Rain & melted snow.
NEW YORK— Continued.		°		°	°	In.		°		°	°	In.
Baldwinsville.....	29	56	26	16	38.6	.....	8	52	21	—19	24.7	3.30
Skaneateles.....	29	57	25	14	37.2	9.50	8	50	20	—9	25.4	.....
Nichols.....	29	64	25	19	40.2	5.92	7, 8	54	21	—24	26.4	.....
Geneva.....	29	66	25	22	41.7	2.89	7, 8	53	21	—6	27.3	1.76
Rochester.....	28	59	6, 25, 26	24	46.7	3.29	8	57	21	—10	27.7	3.22
Rochester Univ'y.....	8, 28	58	6	21	39.6	3.29	8	54	21	—9	25.9	3.22
Little Genesee.....	8, 9, 29	60	6	15	38.9	4.30	8	51	21	—21	23.6	3.23
Friendship.....	28	68	25	16	38.9	.....	8	50	21	—19	24.1	.....
Buffalo.....	10	58	6	23	40.6	3.91	8	54	21	—5	26.9	6.46
Averages.....					41.4	4.85					26.7	4.12
NEW JERSEY.												
Paterson.....	29	63	26	20	43.7	3.33	4	57	21	—1	29.6	3.34
Newark.....	29	63	26	23	45.0	2.09	7, 8	56	21	—1	30.9	2.91
New Brunswick.....	29	67	26	22	43.9	2.61	7, 8	55	21	1	30.5	2.83
Trenton.....	29	66	26	30	48.3	4.30	7	57	21	6	33.7	5.63
Burlington.....	29	68	26	22	44.8	2.60	5, 7, 8	56	21	2	30.8	4.50
Moorestown.....	11	66	26	21	44.6	1.83	7, 8	59	21	2	31.5	3.56
Mount Holly.....	29	69	26	21	45.2	.....	8	62	21	4	32.7	.....
Dover.....	29	69	25, 27	33	49.2	0.79	8, 24	58	20	3	34.6	3.48
Reddington.....	8	75	26	22	47.9	.....	8	60	21	—1	30.9	4.45
Haddonfield.....	29	69	26	23	45.4	1.82	7	57	21	2	31.7	3.43
Greenwich.....	29	66	26	23	46.2	1.62	7, 8	57	21	5	33.2	2.53
Averages.....					45.8	2.33					31.8	3.67
PENNSYLVANIA.												
Nyces.....	8, 9	65	25	10	37.5	6.20	5	59	21	—24	23.7	2.40
Fallsington.....	29	68	26	24	46.0	1.90	7	58	24	4	32.3	3.10
Philadelphia.....	29	70	26	30	47.4	1.47	8	61	21	6	34.3	3.52
Germantown.....	29	66	26	21	45.1	.....	7	64	21	0	28.2	.....
Moorland.....	29	69	26	23	44.7	2.42	7, 8	57	21	0	30.4	2.62
Dyberry.....	8, 9, 10 13, 29	60	26	10	37.8	.....	5, 7	48	21	—20	23.9	.....
North Whitehall.....	29	60	26	20	41.9	.....	6, 7	54	21	—12	28.6	.....
Parkesville.....	11	65	26	22	43.9	2.25	8	57	21	2	30.9	2.91
Stevensville.....	29	64	26	18	40.6	3.58	7	55	21	—24	27.1	2.61
Reading.....	29	70	26	26	45.3	.....	8	59	21	3	31.7	.....
Ephrata.....	8, 10	70	26	22	46.0	3.45	7	76	21	0	31.0	2.20
Mount Joy.....	12	67	24, 25	32	46.6	1.50						
Harrisburg.....	29	62	26	28	46.4	3.27	8	57	21	7	31.9	2.06
Lewisburg.....	29	63	26	19	40.6	4.60	8	55	21	—21	25.6	2.80
Tioga.....	9	64	25, 26, 27	18	39.6	4.25	8	60	21	—26	26.0	2.40
Pennsville.....	29	60	26	16	37.9	4.22	8	51	21	—8	22.8	3.84
Connellsville.....	28	71	6	19	41.3	.....	5, 8	54	20, 21	—4	26.8	.....
New Castle.....	28	64	7	26	43.6	.....	8	57	21	—1	27.9	.....
Canonsburg.....	28	68	6	18	41.2	3.44	8	57	21	—8	26.1	3.13
Averages.....					42.8	3.27					28.3	2.80

Table showing the range of the thermometer, &c., for November and December.

States and places.	NOVEMBER, 1866.						DECEMBER, 1866.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain & melted snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain & melted snow.
DELAWARE.		°		°	°	In.		°		°	°	In.
Delaware City.							4, 6, 7, 8	56	21	8	32.3	
MARYLAND.												
Woodlawn	8	69	26	25	46.6	2.75	5	68	21	4	32.8	2.92
Catonsville	3, 17	66	26	26	46.5	1.50	8	60	21	6	30.6	
Annapolis	29	65	7	27	47.6	3.72	8	66	21	11	36.5	3.94
Emmitsburg	2	68	26	20	46.3		7	62	21	— 6	29.7	
Averages					46.8	2.66					32.4	3.43
WEST VIRGINIA.												
Cabell Court-House							6, 7	62	29	7	34.3	1.30
Romney	2	70	26	20	41.4		5	64	21	— 4	28.7	
Averages					41.4						31.5	1.30
NORTH CAROLINA.												
Statesville	3, 4	70	7, 18, 26	22	44.2	5.50	7, 8	64	29	10	35.5	4.15
Wilson	28	75	26	29	50.6	2.45	7, 8	74	21	17	41.5	2.25
Oxford	29	63	26	36	53.5		8	70	21	17	38.6	
Raleigh	28	75	24	30	49.2	2.83	6, 8	70	28	12	37.0	3.99
Averages					49.4	3.59					38.2	3.46
GEORGIA.												
Atlanta	2	76	25	19	46.6	4.46	7	66	11	16	36.5	4.84
ALABAMA.												
Moulton	3, 4	75	25	28	51.7							1.73
Bon Secour River	5	82	24, 25	37	59.5							
Averages					55.6							1.73
FLORIDA.												
Gordon							6	89	28	27	46.8	
Fernandina							6, 7	72	12, 28	30	50.2	2.60
Averages											48.5	2.60
TEXAS.												
Austin	18	83	30	36	62.3	4.81	2	78	30	30	51.8	1.40
Kaufman							3, 7	79	15	31	53.0	
Averages					62.3	4.81					52.4	1.40
MISSISSIPPI.												
Natchez	9	76	30	31	56.4	6.94	5, 22, 23, 26	72	30	25	50.3	6.23
Kingston	4	77	30	41	59.1		4	78	30	28	49.4	
Grenada	27	60	25	29								
Fayette	9	75	30	32	54.0		5	66	11, 30	24	47.1	
Averages					56.5	6.94					48.9	6.23
ARKANSAS.												
Helena		78	30	29	55.7	4.75	23	70	10, 29	23	47.5	11.09

Table showing the range of the thermometer, &c., for November and December.

States and places.	NOVEMBER, 1866.						DECEMBER, 1866.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain & melted snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain & melted snow.
TENNESSEE.												
		°		°	°	In.		°		°	°	In.
Clarksville	3	77	25	28	48.9	4.72	7	64	30	13	37.4	3.71
Lookout Mountain.	3	77	24	29	49.1	.....	7	61	30	12	35.7	.....
Tusculum College.	28	68	1, 26	26	44.5	.....	6	64	29	12	35.4	.....
Averages					47.5	4.72					36.2	3.71
KENTUCKY.												
Louisville	2, 3	66	25	22	45.5	4.82	6	60	30	2	34.5	3.01
Chilesburg	2	68	25	26	45.2	5.63	7	60	29	6	33.0	2.82
Danville	4	72	25	24	46.4	3.76						
Averages					45.7	4.74					33.8	2.92
OHIO.												
New Lisbon	9	65	26	20	41.1	2.56	4, 7, 23	55	21	- 4	23.9	3.62
East Fairfield	9, 23	58	26	23	40.8	2.82	8	55	21	0	26.2	3.25
Steubenville	23	67	26	25	43.9	.....					
Milnersville	23	64	6	17	38.3	3.38	5	56	28	- 3	26.2	3.34
Cleveland	23	62	26	30	43.1	.....	8	60	20, 21	4	27.3	.....
East Cleveland	8	61	6	23	41.6	3.04	8	58	20	- 2	27.6	2.63
Gallipolis	23	70	6, 7, 26	26	44.2	3.41						
Kelley's Island	8	59	24, 30	31	43.4	3.48	7	53	30	8	29.0	2.23
Norwalk	7, 9, 27	60	6	24	41.1	3.10	4	55	30*	- 2	27.9	2.25
Westerville	7	59	25	25	42.0	4.52	5, 6	54	30	- 6	30.0	0.87
Kingston	2	66	6	25	42.4	2.78	7	57	30	- 2	28.4	2.30
Toledo	8	61	23	25	40.6	3.13	8	53	30	3	27.4	2.56
Marion	9	58	6, 25	24	39.8	4.17	4, 5, 7, 8	49	30	- 4	26.0	2.89
Kenton	9	75	25	32	48.9	8.43	4	62	30	- 11	30.0	6.04
Urbana University.	23	59	25	22	40.8	3.27	7	52	30	- 9	26.5	2.11
Hillsborough	23	61	6, 25, 30	28	41.9	3.35	7	55	30	- 1	27.4	2.62
Ripley							5	59	28	10	33.6	1.75
Bethel	8	62	25	22	41.0	4.39	5	56	30	- 5	27.0	3.38
Cincinnati	8	61	25	26	43.9	3.06	7	57	30	7	30.0	1.98
Do	2, 28	62	30	34	48.2	1.63	7	60	30	12	36.4	1.82
College Hill	3, 9	56	30	26	42.6	5.50	7	56	30	0	28.2	1.86
Farmers' School ...	8	56	12, 25	25	40.8	3.15	6	59	30	- 2	28.3	2.98
Averages					42.4	3.64					28.4	2.66
MICHIGAN.												
Monroe City	8	58	7	24	39.8	2.75	9	50	30	4	28.6	2.73
State Ag. College..	9	57	25	18	37.9	2.60	8	52	14	6	25.5	1.90
Litchfield	7	58	23, 24, 25	18	37.1	4.75	7	49	18	2	22.4	2.80
Grand Rapids	7, 9	56	6, 25	23	37.7	8.70	8	47	14	6	23.2	2.68
Kalamazoo							2, 4, 5	58	14	4	24.1	.....
Northport	8	58	5, 23, 25	26	37.6	.....	7	52	21	7	24.0	.....
Holland	7	59	6	21	38.5	2.01	3	47	14	2	27.0	5.24
Ontonagon	7	64	4, 5, 24, 30	26	35.8	.....	2	48	30	- 9	21.6	.....
Homestead	8	57	25	19	37.4	.....	7	45	15	- 6	24.6	.....
Averages					43.1	4.16					24.6	3.07

Table showing the range of the thermometer, &c., for November and December.

States and places.	NOVEMBER, 1866.						DECEMBER, 1866.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain & melted snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain & melted snow.
INDIANA.		°		°	°	<i>In.</i>		°		°	°	<i>In.</i>
Richmond	2	57	25	23	40.0	3.47	7	54	30	— 9	26.2	3.14
Aurora.....	2	64	12	26	42.7	3.26	.....	.....	.....	.....	.....	.....
Vevay	8	64	25	27	45.3	4.22	5	60	30	5	31.9	3.09
Muncie.....	10	57	25	22	40.7	4.85	7	52	30	— 2	26.8	3.60
Spiceland.....	2	58	25, 30	24	41.5	4.20	5	54	30	— 6	27.1	4.00
Columbia City.....	28	62	24	23	39.8	3.60	5, 6	50	30	— 2	26.0	2.38
Indianapolis.....	.....	.....	.....	.....	.....	.....	7	54	28	— 1	27.6	.....
Merom.....	3	63	29	23	43.6	3.20	5, 7	57	30	4	29.8	3.55
New Harmony.....	3	75	25	25	46.3	3.18	7	60	30	5	34.2	3.48
Averages.....	.....	.....	.....	.....	42.5	3.75	.....	.....	.....	.....	28.7	3.32
ILLINOIS.												
Evanston.....	8	63	25	22	40.2	1.01	.....	.....	.....	.....	.....	.....
Marengo.....	8, 19	60	24	17	37.1	2.75	.....	.....	.....	.....	.....	.....
Riley.....	.....	.....	.....	.....	.....	.....	2, 3	46	12	— 6	20.8	3.54
Goiconda.....	9	85	23	26	48.7	3.20	8	72	27	10	36.3	3.48
Aurora.....	9	63	24, 25	20	38.7	0.94	6	47	30	— 4	22.4	3.80
Sandwich.....	7	65	25	18	36.8	0.28	2	49	30	— 8	22.5	3.16
Ottawa.....	1, 7	66	24, 30	26	41.7	0.90	2	54	27	5	26.7	2.97
Winnebago.....	7	63	24	16	37.2	0.59	2	48	30	— 6	20.9	3.84
Henocpin.....	7	66	24, 25	22	40.0	.....	.....	.....	.....	.....	.....	.....
Magnolia.....	.....	.....	.....	.....	.....	.....	4	60	17, 27, 30	— 2	22.3	3.91
Rochelle.....	7, 8	63	24	17	39.2	.....	2	50	30	— 6	23.3	.....
Wyanet.....	9	75	24	19	40.5	0.24	4	52	30	— 1	25.0	3.60
Tiskilwa.....	7, 8, 9	60	24	20	39.7	.....	2, 4	58	27	1	25.8	.....
Elmira.....	7	64	30	18	40.0	0.35	2, 5	52	12, 27	— 3	25.4	2.12
Peoria.....	1, 7	63	30	22	42.6	0.51	2	54	27	3	28.2	2.05
Springfield.....	3	70	24	26	45.8	.....	4	62	27	7	30.7	.....
Leam.....	1	66	30	19	41.3	0.40	2	56	12	2	28.7	1.70
Waterloo.....	.....	.....	.....	.....	.....	.....	7	67	27, 30	11	37.2	.....
Dubois.....	3	72	29	20	39.7	3.70	4	53	30	3	27.8	3.05
Galesburg.....	8	65	30	17	40.0	0.48	2	51	17, 27	0	25.1	1.58
Manchester.....	3	69	30	22	43.2	0.50	2	60	12, 17, 27	6	30.3	2.03
Mt. Sterling.....	1, 9	68	24, 29	20	43.6	.....	2	62	27	2	29.0	.....
Andalusia.....	1, 8, 9	60	30	18	40.7	.....	4	54	17	6	28.3	.....
Augusta.....	8	66	24	21	43.2	0.51	2	53	17	2	29.4	2.88
Averages.....	.....	.....	.....	.....	40.9	1.09	.....	.....	.....	.....	27.0	2.91
WISCONSIN.												
Manitowoc.....	8	59	25	23	38.8	1.62	3, 6, 7	45	30	— 3	23.5	1.07
Plymouth.....	8	60	25	17	36.8	1.30	3, 7	45	30	— 9	21.0	1.90
Milwaukee.....	8	60	25	21	39.1	1.32	2, 3	49	30	— 5	23.2	3.00
Do.....	8	61	25	20	39.9	1.44	3, 6	47	30	— 7	23.9	2.90
Delavan.....	8	60	24	18	36.8	0.41	2	47	12, 30	— 8	21.1	2.64
Waupaca.....	7, 8	60	24, 30	19	27.6	.....	2	49	29	— 6	21.4	.....
Embarrass.....	7, 9	62	25	15	35.6	3.07	2, 7	42	30	— 14	14.6	1.74
Rocky Run.....	8	66	24	16	36.7	1.38	2, 3, 4	44	30	— 11	20.1	1.06
Beloit.....	8, 9	59	24	18	36.2	2.85	.....	.....	.....	.....	.....	.....
Baraboo.....	7	62	24	18	39.1	.....	2	56	30	— 6	23.4	1.38
Averages.....	.....	.....	.....	.....	37.7	1.67	.....	.....	.....	.....	21.4	1.96

Table showing the range of the thermometer, &c., for November and December.

States and places.	NOVEMBER, 1866.						DECEMBER, 1866.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain & melted snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain & melted snow.
MINNESOTA.												
Beaver Bay	9	53	30	1	31.7	0.80	3	43	29	-15	14.9	0.39
Afton							7	49	29	-14	17.4	.....
St. Paul	7	55	30	-1	32.6	3.19	7	43	29	-13	16.8	0.50
Do.	8	59	30	1	34.0	2.55	7	47	29	-12	18.2	0.27
Minneapolis	9	57	30	3	33.7	3.00	7	52	29	-14	17.4	0.33
Sibley	8	59	30	2	34.2	2.32						
New Ulm	8	62	30	2	36.0	1.33	7, 22	46	29	-11	19.3	0.24
Averages					33.7	1.20					17.3	0.35
IOWA.												
Clinton	9	66	30	20	40.4	0.50	2, 4	50	12, 17, 27, 28	0	25.2	3.50
Lyons	9	66	24, 30	22	.....	0.47	6, 7	44	28	-2	22.3	4.30
Davenport	7	62	30	14	39.7	0.52	2, 4	47	27	-1	23.0	4.16
Dubuque	1	63	30	18	35.2	0.99	4	47	12	0	22.6	1.20
Monticello	1	66	24, 30	18	37.5	1.45	5	55	17	6	23.4	2.15
Burlington	1	68	30	18	40.8	.....	2	52	17	-1	25.5	.....
Fort Madison	1	65	21	18	40.0	0.84	2	52	12	1	26.1	2.48
Guttenberg	1	68	24, 30	10	35.4	.....	4	46	12	-10	19.7	.....
Ceres	1	64	24	13	37.5	.....	3	55	12	-4	21.5	.....
Manchester	1	66	24	13	34.4	0.95	4	47	12	-8	.....	.....
Mount Vernon	7	62	24	15	37.6	.....	4	49	11, 12	-6	21.4	.....
Iowa City	1	72	24	16	40.2	1.51	4	53	11	-2	23.6	3.54
Independence	1	68	24	10	39.3	2.60	3, 4, 6, 22	48	29	-10	19.2	2.00
Do	1	62	24	16	37.0	.....	3	47	27, 29	-2	.....	.....
Waterloo	1	66	25, 30	19	36.0	.....	3, 6	48	12, 26, 27, 28	0	20.0	.....
Iowa Falls	2	60	30	14	38.0	0.98	2, 3, 6	44	11, 29	-4	21.6	1.03
Des Moines	1	69	30	12	41.3	.....	4	51	17	-2	23.7	1.63
Algona	8	64	29, 30	12	34.5	.....	22	48	29	-10	19.6	.....
Fontanelle	1	70	30	9	38.7	0.75	4	51	11, 12, 27	-1	22.0	1.64
Averages					38.0	1.05					22.4	2.51
MISSOURI.												
St. Louis	3	73	30	25	45.6	1.37	2	55	12, 27	11	33.5	1.87
St. Louis University	3	73	30	27	46.5	1.24	2	56	27	11	34.5	1.85
Allenton	3	77	25	17	43.2	1.48	4	57	30	-1	31.1	2.78
Union	3	81	23, 30	20	45.5	1.11	5	57	17, 29, 30	8	34.0	2.05
Edinburg	1	68	30	13	42.1	3.00	3	58	11	5	29.3	2.28
Harrisonville	3, 4	76	30	17	44.3	2.89	5	56	27, 29, 31	8	30.0	3.23
Easton	4	79	29, 30	16	44.9	1.24						
Averages					44.6	1.76					32.1	2.34
KANSAS.												
Leavenworth	4	77	30	14	43.3	2.24	2	59	29	-4	28.2	2.92
Olatha	3	77	24, 30	16	32.1	3.85						
Atchison	6	61	30	17	43.3	4.40						
State Agric. College	4	81	24, 29	20	46.4	1.37						
Council Grove	4	78	29	23	47.0	1.35	2	60	31	4	32.4	1.20
Averages					42.4	2.64					30.3	2.06

Table showing the range of the thermometer, &c., for November and December.

States and places.	NOVEMBER, 1866.						DECEMBER, 1866.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain & melted snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain & melted snow.
NEBRASKA.		o		o	o	In.		o		o	o	In.
Elkhorn	6	70	30	10	39.7	.....	4	61	29, 31	0	23.7	.....
Bellevue	2, 6, 7, 8	64	29	15	43.6	1.33	3, 4	50	31	4	26.9	1.51
Glendale	1, 6	74	30	6	38.8	1.15	1	57	11	— 1	23.3	1.60
Averages.....					40.5	1.24					24.6	1.56
UTAH.												
Great S. Lake City.	3	72	29	28	45.2	2.25	21	52	5, 10	22	38.3	4.56
Wanship	1, 2	69	13	16	38.1	.....					
Averages.....					41.7	2.25						
CALIFORNIA.												
San Francisco.....	2, 3	61	29	48	54.5	2.90						
Sacramento.....	1	74	28	37	53.8	2.43						
Monterey.....	22	68	12, 13	42	52.0	2.33						
Averages.....					53.4	2.55						
OREGON.												
Corvallis.....	10	66	13	32	.....	.....				
Albany.....												4.88
MONTANA.												
Helena City	1	6	28	20	41.7	0.50						

NOTES OF THE WEATHER.—NOVEMBER, 1866.

FROM THE SMITHSONIAN INSTITUTION.

St. John, New Brunswick.—November 23.—Snow from early morning to 9 a. m.; $4\frac{1}{4}$ inches; the first of the season.

Gardiner, Maine.—The mean temperature of November for thirty years is 35.89° ; the month just closed was 2.8° warmer. The amount of rain and melted snow was one inch and thirty-nine hundredths below the average.

Williamsburg, Maine.—November 5.—Ice on pond an inch and an eighth thick.

Lee, Maine.—November 23.—Snow began to fall at 4 a. m. and continued until the 24th; depth five inches; ground slightly frozen; sleighing good; three days' sleighing this month.

Claremont, New Hampshire.—November 25.—About an inch of snow fell last night.

Stratford, New Hampshire.—November 9.—The observer saw a dandelion in bloom to-day.

Randolph, Vermont.—November was remarkable for the small quantity of snow that fell, being less than an inch in all. Sheep and cattle continued to graze in the field and get most of their subsistence in that way. There is no frost in the ground, and farmers still contrived to plough up to the close of the month.

Depauville, New York.—November 30.—The ground was free from snow during the month except on the 25th and 26th. The weather of the month was rather pleasant and favorable for the season, and never prevented farmers from ploughing.

South Hartford, New York.—November 28.—The observer picked from the road side, to-day, two completely developed dandelion blossoms.

Rochester, New York.—The mean temperature of November was 1.47° higher than the average of the month for a series of years.

Newark, N. J.—The mean temperature of November was nearly one degree and seven-tenths above the average of the month during the last twenty two years. The amount of rain was nearly an inch and three-quarters below the average, and less than in any previous November during the same period, except in 1845. The autumn, now closed, was warm, with about eight-tenths of an inch of rain more than the average. Its mean temperature was higher than all but three of the preceding twenty-one, the exceptions being in 1846, 1849, and 1850.

Philadelphia, Penn.—November 5.—The first ice observed in the streets; very thin. 24th.—The first snow of the season; quantity inappreciable; lasted from 9 a. m. to $9\frac{1}{4}$ a. m.

Fallsington, Penn.—The month was a pleasant one for farmers to gather their crops, and was the warmest November since 1850.

Reading, Penn.—No snow to whiten the ground in November; the railroad trains from Schuylkill Haven, Schuylkill county, brought about a quarter of an inch of snow on the morning of the 24th.

Tioga, Penn.—Nearly the whole month has been favorable to agricultural operations, having been generally warm and dry until within the last few days.

Gowdysville, S. C.—November 1.—Very large white frost; ice. 25th.—The ground frozen at 7 a. m. about half an inch.

Bon Secour river, Ala.—November 1.—First frost. 29th, storm of wind, and rain on Mobile bay, four miles from place of observation. It came down the bay, or rather from N.E., until about 9 a. m. The wind on land was from southwest at 7 a. m. The storm was accompanied by diffuse lightning and rain between the squalls.

Grenada, Miss.—November 23.—The first killing frosts of the season. 25th.—The first freeze; ground frozen to the depth of a quarter of an inch. The month was unusually mild and fine, with but little rain.

Natchez, Miss.—November 1.—A light frost this morning in the suburbs, but none in the city proper. 25th.—About 3.30 a. m. a heavy thunder-storm from the southwest, with lightning, thunder, and a high wind for about twenty minutes. The rain fell in torrents.

Kinston, Miss.—November 1.—First frost. 30th, first hard killing frost.

Fayette, Miss.—November 1.—First frost; tender vegetation not affected. 30th, first killing frost; only tender vines injured, and these in many places not entirely killed. General fall of leaves during the last week of the month.

Austin, Texas.—November 27.—A norther began at 4 p. m. In the evening diffused lightning in the east. Colorado river very high, and sudden rise.

Lookout Mountain, Tenn.—November 27.—Heavy fog. 29th, sleet from 11 to 12 p. m.; strong northwest wind, very cold.

Chilesburg, Ky.—November 3.—Large flocks of wild pigeons going westward. 22d.—Large flocks of wild pigeons going south. 23d, snow from 1 to 3 p. m., and again in the night, but altogether not enough to measure. This is the first snow this autumn, and it melted soon after falling. 24th.—Snowing from early in the morning until 3 p. m., but melted as it fell. 25th.—A thin covering of ice this morning upon shallow ponds, the first this season.

Marion, Ohio.—November 22.—Snow at 3 p. m., amounting to about half an inch.

Bethel, Ohio.—An eighth of an inch of snow fell on the 22d and 23d. 30th.—This has been a very wet autumn; corn remains in the field ungathered.

Gallipolis, Ohio.—The first killing frosts of the season were on the 6th and 7th.

- Kingston, Ohio.*—November 23.—Snow squall to day. 24th, ground white with snow.
- Kelley's Island, Ohio.*—November 23.—Ice thickness of paper this morning; the first killing frost of the season.
- Toledo, Ohio.*—November 6.—Ground frozen the first time.
- Litchfield, Mich.*—November 22.—Four inches of very wet snow on the ground to-day, having fallen from 7 p. m. yesterday to 5 p. m. to-day. 27th.—Distant thunder in the southwest; snow mostly gone.
- Monroe, Mich.*—An eighth of an inch of snow fell on the 22d.
- Grand Rapids, Mich.*—Six inches and three-tenths of snow fell from 2 p. m. of the 21st to 10 a. m. of the 22d.
- Muncie, Indiana.*—Half an inch of snow on the 22d.
- Vevay, Indiana.*—An inch of snow on the 22d and 23d; the first snow of the season.
- Aurora, Illinois.*—November was very mild and pleasant. Farmers were able to plough nearly every day. The ground at the end of the month was frozen only about an inch. No wild geese have been flying south. There were two snows during the month, just enough to whiten the ground—one on the 21st, the other on the 29th.
- Winnebago, Illinois.*—Two and a half inches of snow from 1 p. m. of the 21st to 6 a. m. of the 22d.
- Dubuque, Illinois.*—November 16.—First flock of wild geese going south. 30.—No snow during the month.
- Golconda, Illinois.*—November 30.—No ducks or geese noticed migrating yet. There are generally plenty in the ponds and creeks this month.
- Mount Sterling, Illinois.*—November 30.—Ground slightly covered with snow this morning; the first snow of the season.
- Marengo, Illinois.*—The temperature of November was a little more than three degrees higher than the mean of twelve years, with about the same amount of rain as the average for the same period.
- Missouri.*—No snow is reported on any of the registers for November from Missouri.
- Delavan, Wisconsin.*—A little more than an inch of snow fell from 1 p. m. of the 21st to 7 a. m. of the 22d.
- Muskego, Wisconsin.*—November 21.—Snowed from 2 p. m. till in night, to depth of two inches.
- Plymouth, Wisconsin.*—Three inches of snow fell from 11½ a. m. of the 21st to 7½ a. m. of the 22d.
- Baraboo, Wisconsin.*—Six inches of snow on the 22d and 23d.
- Embarrass, Wisconsin.*—November 21.—Five inches of snow fell to-day.
- Beaver Bay, Minnesota.*—Eight and a half inches of snow fell on the 22d.
- St. Paul, Minnesota.*—November 21.—Snow from 8 a. m. to 4 p. m.; three inches.
- Minneapolis, Minnesota.*—November 21.—Snow from 8 a. m. to 4 p. m.; three inches.
- Iowa.*—The snow in Iowa on the 21st November was very slight at most of the stations; the deepest mentioned on the registers was three inches, at Ceres.
- Manchester, Iowa.*—November 30.—Small streams and ponds frozen over.
- Clinton, Iowa.*—November 19.—Last boat up the river. 21st, last boat down the river.
- Monticello, Iowa.*—November 15.—Large flocks of wild geese flying south.
- Des Moines, Iowa.*—The month of November was one of the mildest known in Iowa. Farmers have had a most delightful time for harvesting their corn and for autumn work.
- Iowa City, Iowa.*—November 29.—First snow of the season.
- Kansas.*—No snow recorded on any of the registers for November from Kansas.
- Glendale, Nebraska.*—November was a very pleasant month, with but one or two unpleasant days. Very little rain during the month, and no snow except very slight squalls on the 27th, not measurable, and the first of the season.
- Bellevue, Nebraska.*—No snow during the month. About the 13th or 14th it was reported there was fifteen inches of snow up the Platte, near the Forks, or about three hundred miles.
- Richland, Nebraska.*—The past month was the warmest November in eight years, except in 1865. The ground was fit to plough until the 26th, when the surface froze tightly for the first time this season.
- Great Salt Lake City, Utah.*—Half an inch of snow on the 6th and six inches on the 10th.
- Wanship, Utah.*—Snow fell on six days in November.
- Helena City, Montana.*—No snow during November, and only half an inch of rain, which fell on the 20th; the deepest was two inches on the 28th; it melted in the afternoon.
- Corvallis, Oregon.*—Rain on seventeen days in November; snow twice on Mt. Hood, on the 11th and 26th.
- NOTE.—There was a decided rise of temperature near the end of the month throughout the whole of the United States east of the Rocky mountains. In Nebraska, Kansas, and Iowa it occurred on the 26th; thence east to Ohio on the 27th and 28th, and from Ohio to the Atlantic coast on the 29th; and at nearly all the stations from the western edge of Pennsylvania to New Brunswick the 29th was the warmest day of the month.

DECEMBER, 1866.

The notes of the weather for December are principally occupied with the great storm of the 26th-28th, which resembled the storm of January 6, 1856. A snow-storm also prevailed on the 15th-17th, extending from the northeast coast to Nebraska and into the southern States. The principal fall of snow in the mouth, west of Ohio, was during this storm.

Wolfville, Nova Scotia.—Two and a half inches of snow fell during the night of the 27th.

Halifax, N. S.—The Newfoundland telegraph lines were prostrated for many miles by the terrible gale of Wednesday, December 26. A fearful gale here on Thursday night threw down the telegraph lines and washed the railway embankments away. Several vessels were injured at the wharves. There have been no arrivals here now (December 29) for two days.—*Newspaper telegram.*

St. Anne, Canada East, (long. 70° on the south shore of the St. Lawrence.)—Slight snow beginning in the night of the 26th, and ending at 11½ a. m., the 27th. Heavy snow from 2 a. m. to 11 a. m. on the 28th. Snow fell in the night of the 28th to noon of the 29th; ten and a half inches in all.

Montreal, Canada.—December 29.—There has been a heavy snow-storm during the last two days, the wind blowing like a hurricane. The drifts are several feet high, and the trains are delayed. The river has not been as free from ice for twelve years as at present.—*Newspaper telegram.*

Toronto, Canada.—December 28.—The snow is three feet deep on a level west of Stratford.—*Newspaper telegram.*

Cornish, Maine.—Snow from 8 a. m. on the 27th to 7.20 a. m. the next day. The barometer on the morning of the 28th was lower than at any time before since the observer began recording it. Fall of snow, ten inches.

Gardiner, Maine.—December 27.—Snow-storm commenced about noon; snow moist, and towards night rain; cleared off at midnight. About six inches of snow and an inch and a quarter of rain. 28th.—Another storm of snow began at 6 a. m. and cleared off at 2 p. m., only about 1½ inch of snow. In looking over the records for more than twenty years, the observer found no instance of the barometer being lower than it was this morning. The mean temperature of the month was 3.23° above the average of December for thirty-one years. Had it not been for the cold of the last three days of the month the mean temperature would have been 5½° above the average.

Standish, Maine.—December 28.—Four and a half inches of snow fell yesterday and to-day. First sleighing this winter.

Lisbon, Maine.—The gale of the 27th and 28th was very severe here, uprooting and breaking off trees ten inches in diameter. Very good sleighing; the first of the season.

Autrim, N. H.—The fourth snow of the season was on the 27th, commencing about 7 a. m., continuing till after 9 p. m. The wind blew very furiously during the night, and continued to do so for several hours after sunrise on the 28th. This is thought to be the heaviest storm that has occurred for several years. Coming down damp, it adhered to the trees, bending their branches to the ground, so that many of them had to be cut away in order to clear the public road.

Concord, N. H.—December 27.—An easterly gale prevailed all day, accompanied by soft snow, which began to fall early in the morning, or during the night previous, and lasted till in the night of the 27th. It blew with the greatest vehemence about 8 p. m., when, also, the snow was the thickest. The sleighing has never been better.

Claremont, N. H.—On the night of the 27th and morning of the 28th the barometer was lower for many years before. Twelve inches of snow fell.

Lunenburg, Vermont.—There is no sleighing at the close of the month, which is unusual. What snow there has been has blown in heaps, and more than half of the way the roads are bare. The ground is frozen quite hard, and ice on ponds and rivers is about ten inches thick.

Wilmington, Vermont.—Snow began to fall on the morning of the 27th. The storm continued all day and through the following night. It was an old-fashioned northeaster. During the 28th and 29th the wind blew violently from the west. The snow was thrown into drifts, and nearly all the highways were rendered impassable, and kept so for several days. Such a storm has not been known in this vicinity for more than twenty years. Snow fell to the depth of about twenty-five inches.

Barret, Vermont.—About ten inches of snow fell during December; at the end of the month not more than two inches remained, not enough for sleighing, and there have been but a few days that sleighs have been used as yet this winter. The ponds and ground are frozen quite deep. During the storm on the 27th and 28th a foot and a half of snow fell fifty or sixty miles below, and only three inches here.

Georgetown, Mass.—The only fall of snow sufficient for measurement was that of the 16th and 17th. The severest rain storm of the month was on the 27th. Rain fell with scarcely any intermission till near night.

Richmond, Mass.—December 27.—A heavy snow commenced at 3 a. m., from the southeast. At 4 p. m. the wind changed to northwest, and the snow was driven furiously into drifts. The storm and blow continued until the 29th. Highways were universally blocked with snow, and railroad travel was suspended for two days.

Kingston, Mass.—December 27.—A furious storm of wind and rain. 28th.—Two inches of snow fell from 11 o'clock last night to 4 this morning.

- Newbury, Mass.*—December 27.—From 4 p. m. to 6½ p. m. the wind blew a violent gale.
- North Billerica, Mass.*—December 27.—A remarkable depression of the barometer, reaching its minimum during the night.
- Williamstown, Mass.*—December 27.—Great snow storm; depth of snow probably more than two feet, the greatest fall observed here at one time.
- Worcester, Mass.*—Eight inches of snow fell from 8 a. m. of the 27th to 4 a. m. of the 28th.
- Newport, R. I.*—December 27.—Rain from 7 a. m. to 2 p. m., and snow from 8 p. m. till two hours after midnight.
- Pomfret, Conn.*—December 27.—Snow from 6 a. m. till in the night.
- Groton, Conn.*—Very heavy rain on the 27th. Two inches of snow on the 28th, the wind blowing a strong gale much of the time during these two days.
- Columbia, Conn.*—December 27.—Commenced raining at 4 a. m. and continued, with the wind northeast, till the 28th at 3 a. m., when the wind veered into northwest. Twelve inches of snow fell.
- Colebrook, Conn.*—December 27.—Commenced snowing as early as 5 a. m.; wind east in the morning; at 4 p. m. changed to northwest, very high, which continued through the night. After the wind changed the air was so filled with snow that it was impossible to know when it stopped snowing. Two feet of snow fell during the storm. 28th.—High wind and snow squalls; snow very badly drifted; roads impassable.
- Hudson, N. Y.*—December 28.—The storm of last night was the most severe ever known in this city. Every avenue to the city is blockaded. The Hudson and Berkshire railroad is completely closed. Four passenger cars on the Hudson River railroad were blown from the track last evening, and trees and fences in all directions, were blown down.—*Newspaper telegram.*
- Troy, N. Y.*—December 29.—The city is still snow-bound. No trains have reached us since Thursday afternoon, the 27th. Yesterday trains left the city by the Central road for Schenectady, and also by the Rensselaer and Saratoga road, but in each case they were compelled to return, after proceeding seven or eight miles. Communication by railroad is not yet open between this city and Albany.—*Newspaper telegram.*
- South Hartford, N. Y.*—December 27.—Snow commenced at 9 a. m.; at 2 p. m. it had not amounted to an inch. It then increased, and at 3 p. m. was falling at the rate of four inches per hour. At 2 a. m. on the 28th, it stopped storming. When morning broke, the snow lay twenty inches upon the level. Travel ceased, and was not resumed on the Saratoga and Washington railroad until the morning of the 30th.
- Nichols, N. Y.*—December 27.—Light snow all day; depth two inches; very windy night. 28th.—Snow squalls a greater part of the day; strong gale from the northwest all day and night.
- Garrison's, N. Y.*—A heavy gale, from the west and northwest, blew all through the 27th and 28th, and part of the 29th, but no serious damage was done in this vicinity.
- Dequerville, N. Y.*—December 31.—Good sleighing on all roads running north and south; roads running east and west are in many places badly drifted. The ground is not frozen. The open country is covered with only a few inches of snow, while on other places high banks of snow are heaped up.
- New York, N. Y.*—December 27.—Snow at 2 a. m.; after a short time hail, and then sleet, till at 10 a. m. it became rain, and continued so till 11.40, when it changed to snow and continued at intervals till 5.40 p. m. At first the wind was very light from west southwest; changed gradually to the northwest, and increased in violence till at 6 p. m. it blew a gale, and continued most of the night. Amount of snow, two inches.
- Skaneateles, N. Y.*—December 27.—A most boisterous day, and snow drifted badly. 28th.—Tempestuous day; snowing and drifting fearfully. 29th.—The storm abates, but wind continues high; snow supposed to be three and a half feet deep on the level.
- Rochester, N. Y.*—December 27.—A very severe storm commenced last night, and this afternoon is attended by a westerly gale that is piling the snow in immense drifts through the county. The storm did not cease till early in the morning of the 29th, and seems to have been the greatest storm that has occurred in several years.—*Dr. Matthews.*
- Rochester, N. Y.*—The morning of the 21st was the coldest morning in December in thirty years, by four degrees. The temperature of the month was 2.71° below the general average for December. (In the meteorology of the State of New York, printed in 1847, the temperature of Rochester in December, 1847, is given 10° below, but should be 10 above, as the original records show.) Average temperature of the year, 1837 to 1866, inclusive, 47.03°; of water, 32.63 inches; of barometer, 29.53 inches.—*Prof. Decey.*
- Newark, N. J.*—On the 27th about one inch of snow fell during the day, preceded by some rain and hail the previous, and was succeeded by a gale of wind of some hours continuance from the west and northwest, causing the foundering of the steamboat Commodore on Long Island sound, and other marine disasters. The mean temperature of the month was nearly two degrees lower than the average of December for the last twenty-two years. The quantity of rain and melted snow was more than an inch less than the average.
- Greenwich, N. J.*—December 27.—Light rain last night, which changed to snow between 6 and 7 a. m. this morning. Squally through the day.
- Locust Farm, N. J.*—December 27, 28.—Quite a gale from the west. Delaware river frozen over for the third time this winter.

Moorestown, N. J.—The ground was without snow until the 31st, save a few hours on the 16th. *Reading, Penn.*—Strawberry plants in bloom in the beginning of the month, and fruit buds of trees very much pushed forward. Gale from the west from the evening of the 27th till towards daylight of the 29th, preceded by a light snow.

Tioga, Penn.—On the night of the 27th, all of the 28th, and a part of the 29th there was a high cold wind from the west.

North Whitehall, Penn.—December 27.—Three-and-a-half inches of snow; high wind in afternoon and night. This December was the coldest since the record began, eleven years.

Pocapson, Penn.—December 27.—Light fall of snow this morning.

Stevensville, Penn.—December 27.—Two inches of snow fell to-day.

Fallsington, Penn.—December 27.—Sprinkle of rain at 3 a. m. Snow squalls from 8 a. m. to 5 p. m.; gale.

Philadelphia, Penn.—December 27.—Rain last night, changing this morning to snow, ceasing at 10 a. m.; depth of snow one inch.

Meadville, Penn.—December 29.—It has been snowing here for the last forty-eight hours; it is two feet deep and still falling.—*Newspaper telegram.*

Emmitsburg, Md.—December 27.—A violent gale commenced at 9 a. m. and continued during the whole day and night and during the 28th, until 10 o'clock a. m., when it moderated a little, but during the afternoon and night considerable wind.

Charleston, S. C.—December 29.—Cold and rainy.—*Newspaper telegram.*

Columbia, S. C.—Snow began here on the 28th and fell to the depth of a foot, the deepest snow that any remember to have occurred here.—*Correspondence.*

Augusta, Ga.—December 29.—The snow here this evening is one inch deep.—*Newspaper telegram.*

Atlanta, Ga.—December 29.—Heavy snow here; good sleighing this evening.—*Newspaper telegram.*

Natchez, Miss.—December 26.—Thunder in the west at 3.30 p. m. Light shower of rain from 3.40 to 3.55 p. m., with a few peals of thunder. 27th.—Clear and cold day with a fresh breeze from the north.

Helena, Ark.—No snow recorded during the month, and no rain after the 14th.

Lookout Mountain, Tenn.—December 26.—Sleet this morning. First snow storm of the season; it continued only an hour or two.

Chilesburg, Ky.—December 26.—Began to snow before day, and it was an inch deep at daybreak, but all melted before evening. Began to rain and snow at 4 p. m.; mostly rain at first, but in a short time it was mostly snow; depth two inches.

Ohio.—Throughout Ohio there was a fall of snow on the 26th, varying from less than an inch in depth to four inches. The wind generally was west, and during the night of the 26th and throughout the 27th and 28th was a strong or high wind at some of the stations, at others only a gentle or fresh breeze.

Michigan.—At Holland snow fell every day from the 25th to the 31st, inclusive, amounting in all to eighteen and a half inches, with but little wind. Only a slight fall of snow is recorded at the other stations.

Further west the evidences of the storm of the 27th became very slight, and the remaining portion of these notes will not be confined to it as the previous part has been.

SpiceLand, Ind.—December 26.—Showering nearly all day. Very stormy p. m.; exceedingly so after night.

Vevay, Ind.—December 23.—10.45 a. m. violent thunder storm from the south; forked lightning of a dark red color; the rain fell in torrents; thermometer 60° at 11 a. m.; wind from the southwest.

Merom, Ind.—December 23.—At 7 a. m. the temperature was 52°, which was the highest at that hour during the month. Soon after 8 a. m. the wind changed from southwest to west. At 2 p. m. the temperature had fallen to 41°, and it continued to descend till it reached 6° at 7 a. m. on the 27th. Rain from 8 p. m. 22d till past noon the 3d.

Aurora, Ill.—December 31.—The ground is bare, with the exception of some spots of ice.

Andalusia, Ill.—From the 4th to the 18th the ground was entirely free from frost. The Mississippi river at this place was not frozen over till December 27th in the main channel. The streams were frozen over two weeks before.

Winnebago, Ill.—December 26.—Light snow squalls at intervals through the day. Strong west wind in the afternoon and night.

Loami, Ill.—Only two inches of snow fell during the month, which was on the 15th.

Riley, Ill.—The temperature of December was about 24° below the mean of the month for eleven years, and the temperature of the year nearly 3° below the annual mean for the same period. The amount of rain and melted snow was about equal to the general average. During the great storm in the last week of the month further east, the weather here was steady, cold, and pleasant, with a fresh breeze from the northwest; on the night of the 26th the wind was high from the west. The ground and streams froze on the 9th and 10th, up to to which time there was good ploughing. No snow or rain after the 19th.

Waterloo, Ill.—December 15.—5 p. m. hail the size of a hazel-nut, and thunder and lightning as heavy as in summer.

Ottawa, Ill.—December 16.—A hard snow storm, much drifted; depth about fifty-four and a half inches.

Allenton, Mo.—December 5.—Thunder from 10.40 to 11.20 a. m.; thunder and lightning from 1.50 p. m. to 2 p. m. 26th.—A sprinkling of snow at 9½ a. m.; high north wind in the night.

Harrisonville, Mo.—December 27.—Snow from 7¼ p. m. to 11 p. m.; three and a quarter inches.

Alhcaukce, Wis.—December 16.—A furious northeast snow storm; depth of snow eleven inches.

Minneapolis, Minn.—December 5.—Skating on the river here. 8th.—Ferry-boat across the river at Fort Snelling made its last trip for the season.

St. Paul, Minn.—December 10.—Mississippi closed later by eight days than for 10 years; 31st, ground frozen to the depth of two and a half feet. The only falls of snow during the month deep enough to be measured were three-eighths of an inch on the 20th, and one inch on the 30th.

New Ulm, Minn.—Scarcely any snow fell during the month. On the 11th the Minnesota river froze over, so that teams could cross in safety; ground free of snow at the end of the month.

Davenport, Iowa.—Nine inches of snow during the month; six inches of which fell on the 15th and 16th.

Dubuque, Iowa.—December 14.—River closed with ice in gorges, leaving open space for ferry-boat to run. 26th.—Teams crossed the Mississippi on the ice for the first time this winter.

Burlington, Iowa.—December 10.—Heavy ice commenced running in the Mississippi at this place; 14th, river closed at 10 o'clock p. m. 16th.—Nine inches of snow fell from 3 p. m. yesterday to 9 a. m. to-day, the only snow of any consequence during the month.

Ceres, Iowa.—There was very little snow during the month; the ground is frozen three feet deep.

Independence, Iowa.—Only four and a half inches of snow fell during the month—three and a half of it on the 7th and 8th, the other inch on the 30th.

Waterloo, Iowa.—No snow of any amount during the month.

Des Moines, Iowa.—The only falls of snow during the month were two inches on the 7th, six inches on the 15th and 16th, and a few flakes on the 30th. At the close of the month the roads were dry and dusty like summer.

Algona, Iowa.—There were only two and a half inches of snow during the month, and the weather was remarkably dry and pleasant for the season.

Monticello, Iowa.—Two inches of snow on the 8th, four inches on the 15th, and half an inch on the 30th. The south fork of the Maquoketa river froze over at this place on the 13th, which was one day later than last year.

Fort Madison, Iowa.—Eight-tenths of an inch of snow fell on the 6th and 7th, nine inches and seven-tenths on the 15th and 16th, and five-tenths on the 30th; in all, eleven inches.

Leavenworth, Kansas.—There were nearly thirteen inches of snow during the month, nine and a half inches of it on the 15th. The mean temperature of the month was 1.7° colder than the average for five years, and the amount of rain and melted snow was 2.39 inches more than the average for the same period.

Council Grove, Kansas.—December 8.—A little snow, partially whitening the ground. 15th.—Snowing all day, partially whitening the ground. 22d.—Snow gone. 26th.—Squall of snow at 7 a. m., not enough to whiten the ground. 29th.—One inch of snow this morning.

Atchison, Kansas.—December 2.—Floating ice in the Missouri river all day, being the first this season. Diffuse lightning in the E. S. E. and E. during the evening. 9th.—White Clay creek frozen solid this morning. 15th.—The Missouri river closed opposite this city last night and footmen are crossing on the ice to-day. A little over ten inches of snow fell to-day, and more than fourteen inches during the month.

Manhattan, Kansas.—Nine inches of snow fell on the 15th, and less than a quarter of an inch during the rest of the month.

Belleue, Nebraska.—December 10.—River closed. One boat was up about the first of the month, the first time they have run so late in the season.

Elkhorn City, Nebraska.—Two and a half inches of snow fell during the month. The temperature of the month was considerably above the mean of nine years. The ground was last fit to plough on the 7th, since which time it remained frozen.

Glendale, Nebraska.—December 1.—Platte and Missouri rivers closed. 7th.—First real snow; depth, three and a half inches. 12th.—Ferry-boat crossing the Missouri again. 15th, 16th.—Four inches and three-quarters of snow. 25th, snow mostly gone except in large drifts. 27th.—From twenty minutes before to thirty minutes after sunrise, extraordinary deep and brilliant colors and tints of clouds in the east—deep red, scarlet, and pink, and sky a deep pea-green tinged with blue. 31st.—Amount of snow during the month eight inches and six-tenths.

San Francisco, California.—December 29.—A terrible storm, lasting about three hours, passed over Nevada on the 27th instant. Rain and hail poured down alternately, accompanied with thunder and lightning, flooding the streets and stores. Fences were levelled to the ground, and large oaks and pines snapped off as though they were pipe-stems.—*Newspaper telegram.*

MONTHLY REPORT

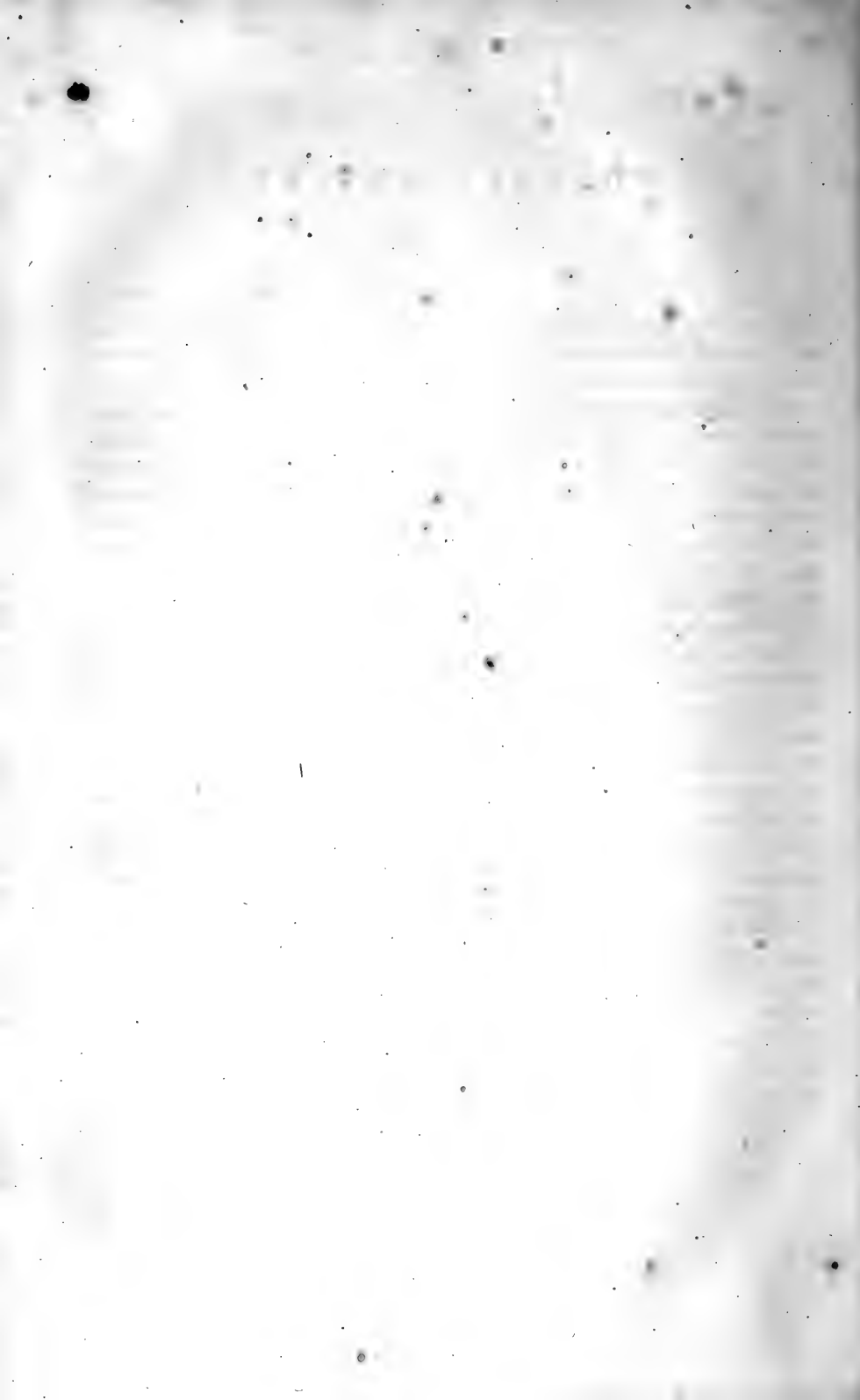
OF

THE AGRICULTURAL DEPARTMENT.

FEBRUARY,

1867.

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MONTHLY REPORT.

WASHINGTON, D. C., *February* —, 1867.

A variety of statistics of the agriculture of the United States and Great Britain will be found in this Report. A careful study of these facts will furnish abundant food for reflection, and start many a suggestion of practical value.

The statement concerning the famous dairies of Ayrshire, in Scotland, shows an average annual yield of four hundred and twenty-five gallons of milk per cow. Hon. Zadock Pratt, of New York, reports the yield per cow in his dairy of eighty cows at five hundred and eighty-four gallons per cow in a season of eight months. The Ayrshire product of cheese, on this basis, is four hundred and twenty-nine and a quarter pounds per cow, realizing fifty dollars and sixty-two cents per cow; the butter product of Mr. Pratt is sixty dollars and sixty-six cents per cow.

The experiments in manuring, so long and systematically conducted by Mr. Lawes, show, in the comparison of yields of successive years, the fact that the last three years have been characterized by a successive decline, by nearly uniform gradations, in the wheat product. And the rate and proportion of the decline differ little from the experience of wheat-growers in this country and in France in the same period. Whether there may be cycles of varying production, and a periodicity in maximum yields that may be defined or determined, remains to be proven.

The attention of Congress is respectfully called to the resolution of the Kansas legislature, praying for the passage of some law for the protection of the western cattle-growers against the ravages of the Spanish fever. I am making efforts to obtain facts relative to this singular and fatal disease, which may result in great loss to the people of Kentucky, Missouri, Kansas, and possibly to other States, if Texas cattle shall be allowed unrestricted passage through those regions.

The tables showing the average yield per acre, and average prices of cereals and other prominent farm products, for 1866, indicate a year of average production and prosperity.

ISAAC NEWTON,
Commissioner.

PORK-PACKING IN CINCINNATI.

The packing season in Cincinnati has disappointed the feeders of hogs in the matter of prices. A very marked decrease from the previous season was early indicated. The average has been little more than half of the average of 1864-'65. The average yield of lard was less than last winter, but greater than for several previous seasons, amounting to thirty pounds per hog. It is claimed, however, that much less lard than usual has actually been made the present season, as few, if any, hogs were rendered into lard; whereas there were 2,000 or more the previous season that were rendered entire, with the exception of the hams.

The following, from the Price Current, shows the general average weight and yield of lard per hog for the past eight seasons:

	Average weight.	Yield of lard.
	<i>Pounds.</i>	<i>Pounds.</i>
1859-'60.....	189	23
1860-'61.....	221 $\frac{1}{7}$	28 $\frac{9}{16}$
1861-'62.....	224 $\frac{23}{34}$	29 $\frac{5}{18}$
1862-'63.....	209	25 $\frac{21}{34}$
1863-'64.....	188 $\frac{11}{12}$	23 $\frac{1}{8}$
1864-'65.....	201 $\frac{1}{8}$	24 $\frac{1}{5}$
1865-'66.....	238 $\frac{18}{31}$	32 $\frac{2}{5}$
1866-'67.....	232 $\frac{7}{7}$	30 $\frac{1}{12}$

The following shows the number of hogs packed during thirty-five years:

Years.	No.	Years.	No.
1833.....	85,000	1851.....	334,000
1834.....	123,000	1852.....	352,000
1835.....	162,000	1853.....	361,000
1836.....	123,000	1854.....	421,000
1837.....	103,000	1855.....	355,000
1838.....	182,000	1856.....	405,000
1839.....	190,000	1857.....	344,000
1840.....	95,000	1858.....	446,677
1841.....	160,000	1859.....	382,826
1842.....	220,000	1860.....	434,499
1843.....	250,000	1861.....	433,799
1844.....	240,000	1862.....	474,467
1845.....	196,000	1863.....	608,457
1846.....	205,000	1864.....	370,623
1847.....	250,000	1865.....	350,600
1848.....	475,000	1866.....	354,079
1849.....	410,000	1867.....	462,610
1850.....	393,000		

The following were the average prices of hogs for the last fourteen seasons:

1853-'54.....	\$4 44 $\frac{1}{4}$	1860-'61.....	\$5 97
1854-'55.....	5 00 $\frac{3}{4}$	1861-'62.....	3 28 $\frac{2}{5}$
1855-'56.....	6 04 $\frac{3}{4}$	1862-'63.....	4 45
1856-'57.....	6 23 $\frac{3}{4}$	1863-'64.....	7 00 $\frac{1}{2}$
1857-'58.....	5 16 $\frac{1}{2}$	1864-'65.....	14 62 $\frac{1}{4}$
1858-'59.....	6 58 $\frac{3}{8}$	1865-'66.....	11 96 $\frac{5}{8}$
1859-'60.....	6 21 $\frac{1}{3}$	1866-'67.....	7 52 $\frac{1}{4}$

NEW REFINING PROCESS FOR SORGHUM SIRUP.

Sorghum sugar-cane is now quite extensively cultivated in all the eastern, middle, and western States. Within a few years it has been quite successfully grown in Connecticut, Rhode Island, and some parts of Massachusetts. The rapidity with which this new farm enterprise has extended and developed itself is probably without a parallel in the annals of husbandry. In the short space of ten years, and in the face of many obstacles, this "sweet reed" has been introduced and established as a permanent and an important farm staple, affording annually from thirty to thirty-five million gallons of its sirup. The introduction of this plant has wrought changes amounting almost to a revolution in the dietetic economy of vast regions of the country. Families which formerly consumed half a dozen gallons of tropical molasses in a year, now use fifty to a hundred gallons of sorghum. Its use in the family supplies to a large extent the place of butter and meat, particularly with children, and it is the universal testimony of those who have observed its effect upon the health of families using it freely, that it is attended with improved average health.

Notwithstanding the extent to which sorghum is produced in the country, its consumption is confined almost wholly to the communities or districts in which it is grown. Very little finds its way into the channels of commerce and into city consumption, except that which comes through sugar refineries and reaches the general public in the form of sugar-house or golden sirup. Crude sorghum has a distinguishing flavor, which to many persons is not agreeable. This quality is easily removed by the ordinary process of refining as practiced in regular sugar refineries, but this operation involves an expensive apparatus and great skill, neither of which is practically attainable by the farmer. He is therefore under the necessity of finding a home market for his surplus product, or of selling it to refiners at much less than its real value, compared with products of the tropical cane. Within the last two years the production of sorghum has been considerably in excess of the local demand, and the sirup has been forced into the general markets of cities, particularly in the west, where, there being no definite commercial standing for the article, farmers have been forced to sell at prices not fixed by the rule of intrinsic value, but by the rule of commercial cupidity. This has been somewhat discouraging to cane-growers, and all now realize the need of some simple and practical method of so refining or improving the quality of the sirup as to secure for it a proper position or rank among other sirups and saccharine substances in the market.

Quite opportunely a very simple and inexpensive refining process has recently been discovered by Mr. Wm. Clough, of Cincinnati, editor of the *Sorgo Journal*, which promises to answer all the requirements of the business. This process has been exhibited in the rooms of the Agricultural Department during the last two weeks, both in refining crude sirup and in operating upon green juice. For the latter purpose a quantity of canes from the experimental grounds of the department, which had been stored all winter, and were somewhat decayed, were pressed, and the juice of these canes, after being refined by the new process and subsequently concentrated, produced a delicious table sirup. A quantity of this sirup, together with samples produced by refining crude sirups of various qualities, have been deposited in the department for public inspection.

The process of refining is quite novel and interesting. No filters of any kind are used, no expensive or intricate apparatus is required, and the expense for ingredients used in the process is a mere trifle, not exceeding one or two cents a gallon. In refining old sirup the solution is reduced to the density of 16° or 18° Beaumé. The refining agents are then added and thoroughly mixed with the juice or dilute sirup, and the liquid brought to the boiling point. At the boiling temperature a copious precipitate or coagulum appears. The fluid is

then removed from the fire and allowed to remain quiet for a few minutes, when the impurities subside, forming a dense sediment at the bottom, leaving the solution perfectly clear. The clear liquid is then drawn off and concentrated, in the ordinary way, to the appropriate density. The finished sirup has a wine-like transparency and is entirely devoid of the peculiar odor and crude vegetable quality of sorghum. Its taste is mild and agreeable, rather more pleasant to many than that of sugar-house sirup.

What is to be the effect of this process upon the great question of making sugar from sorghum? will naturally be asked by all who are interested in cane culture. The sugar phase of the sorghum subject is the most interesting, and, in the end, must become the most important. It is apparent that much of the gummy or mucilaginous matter contained in the sirup is removed by this process, and as these obstruct granulation, and also prevent the sugar from readily separating from the uncrystallizable residuum, it would appear that the operation must favor the production of sugar. Mr. Clough, the inventor or discoverer of the process, states that sugar has formed in almost all cases in sirups which he had refined, though without the use of the ordinary means to favor granulation. For making sugar, however, the refining operation should be applied to the juice in the first stages. With good healthy cane of the better varieties, the juice treated by this process and promptly concentrated, it is believed that sorghum sugar can be readily and systematically produced.

THE SPANISH FEVER.

The department is endeavoring to collect information relative to this destructive distemper. Facts and well-considered opinions are desired from all available sources. The following resolutions have been adopted by the legislature of Kansas:

"Whereas there annually prevails a contagious disease among the cattle of this and adjoining States, commonly known as 'Spanish fever,' destroying large numbers, thereby seriously affecting the interests of the productive industry; and whereas such disease is propagated by the introduction of cattle from the State of Texas and Indian territory south of Kansas; and whereas the want of a scientific investigation of the said disease has rendered void any effort to arrest its ravages: Therefore,

"Resolved by the house of representatives of the State of Kansas, (the senate concurring,) That our senators and representatives in the Congress of the United States are instructed to urge and support an appropriation by said Congress to enable the Department of Agriculture to make the said scientific investigation, and that a copy of this resolution be forwarded to each of our senators and representatives in Congress, and also to the Commissioner of Agriculture."

The people of southern Texas, conscious of their danger, and distrustful of the efficacy of government action for their defence, are taking the matter in their hands and organizing vigilance committees to arrest and drive back the Texan cattle movement. Such a meeting was recently held, composed of farmers from McDowell, Humboldt, Clark, and Lyon creeks, and a large committee appointed and organized.

The attention of the Agricultural Committees of Congress is respectfully called to this resolution and similar suggestions from private individuals.

EXPERIMENTS IN MANURING.

In view of the fact that France obtains fifty per cent. more wheat per acre than the United States, and England more than a hundred per cent. greater crops, it is time that facts concerning fertilizers and improved modes of culture should be more carefully noted and better heeded.

Mr. J. B. Lawes, who has been making wheat experiments in England for twenty-three successive years upon the same land, reports the result in the year just closed, with comparisons with three preceding years, and the average for fourteen years, as follows:

BUSHELS OF WHEAT PER ACRE.

How manured each year.	Harvests.				Average for 14 years— 1852 to '65.
	1863.	1864.	1865.	1866.	
Unmanured.....	17½	16	13½	12½	15½
Farm-yard manure.....	44	40	37½	32½	35½
Artificial manure.....	53½	45½	40½	29½	37½
Artificial manure.....	55½	49½	43½	32½	39½
Artificial manure.....	55½	51½	44	32½	36½

WEIGHT PER BUSHEL OF WHEAT.

Unmanured.....	62.7	62.0	60.1	61.3	57.3
Farm-yard manure.....	63.1	62.5	61.6	61.7	59.8
Artificial manure.....	62.6	63.1	61.0	61.0	59.0
Artificial manure.....	62.3	63.5	61.1	60.1	58.5
Artificial manure.....	62.1	62.6	61.5	60.6	57.8

Mr. Lawes says: "From the progressive decline in the produce from year to year since 1863, it will, perhaps, be supposed that the result is in great measure connected with a gradually declining condition of the land, and therefore not mainly the effect and the indication of variation in the productive character of the seasons. That the results are not due to the changing condition of the land, but to the changing character of the seasons is, however, evident from the fact that several times during the last fourteen years the crops on these same plots have been as bad as, or worse than, in the present season."

The following statement shows the result in the most unfavorable seasons, the worst being in 1853:

	1852.	1853.	1860.	1866.
Unmanured.....	13½	5½	12½	12½
Farm-yard manure.....	27½	19½	32½	32½
Artificial manure.....	26½	23½	27½	27½
Artificial manure.....	27½	23½	31½	32½

"The variation in amount of produce from year to year may, therefore, safely be taken as almost wholly referable to season. The quality of the grain, as shown by the weight per bushel, is seen to be considerably above the average of the last fourteen years."

"Turning from these experimental results to those obtained on my farm under ordinary management, I may mention that three separate fields gave this year 40, 42 and 46 bushels per acre, respectively, against 38, 48, 48 and 51 bushels obtained in the four last years, thus indicating a considerable decline in amount of produce. On the other hand, the weight per bushel is somewhat higher in each of the three cases this year than in either of the four last years.

"Upon the whole, I conclude that the wheat crop of 1866 will prove to be decidedly below an average, and, judging from the produce of both my experimental and ordinary crops, and the relation which has been observed between them and the crops of the country generally for many years past, I should estimate the deficiency at not less than 10 or 12 per cent."

AYRSHIRE DAIRIES.

From the "Transactions of the Highland Society" we glean some interesting statistics in relation to the dairy products of Ayrshire county, England. The number of cows in milk is estimated at 40,000. Allowing an average yield of 425 gallons of milk to each cow annually, and 1.01 pound of cheese to a gallon of milk, we have, after deducting for indrink, 429½ pounds of cheese to each cow; which, at \$13 70 per hundred-weight of 112 pounds, yields \$50 62½ per cow, or \$2,025,000 for the 40,000 estimated for the county. To this product of the milk add the price of 39,000 newly dropped calves, at \$1 75 per head, or \$68,250 for the whole, and we have \$2,093,250 as the total value of the annual product from the milch cows of the county. The amount from the milk is apportioned as follows: sweet or full-milk cheese, \$1,600,000; half-and-half and skim-milk cheese, \$125,000; butter, buttermilk, sweet milk, skim-milk, \$200,000; milk given to the calves reared, \$100,000. To the above yield from the milk and calves, \$2,093,250, add proceeds from, say, 9,000 grass-fed cattle sold and exported at an average of \$42 50 per head, exclusive of the \$1 75 per head formerly charged as calves, \$382,500; gross fattening of sheep, &c., \$50,000; value of the whey for pigs, \$90,000; total, \$2,615,750. From which deduct value of cabbage acreage, \$40,000; mangold acreage, \$82,500; vetches acreage, \$10,000; meal, &c. given to cows, \$75,000; the fodder is compensated for by the manure; total net proceeds, \$2,408,250. Dividing this sum by the 135,000 acres in rotation pasture, we have \$17 50 as the amount realized per acre of grass land in the county.

CALIFORNIA PRODUCTS.

The following upon the cultivation of the palms, agaves, acacias, olives, mulberries, and almonds in southern California is furnished by Alexander S. Taylor :

"The coast counties of south California are peculiarly adapted to the growth and cultivation of the valuable plants named in the above caption. Different species of *acacias*, as the *mesquites*, and of the *agaves*, as the *A. Americana*, or century plant, as well as a species of palm, with a sweet edible fruit, like the date palm of Barbary, are indigenous to the soil, and are very common in the Colorado mountains and slopes of the extensive county of San Diego. The agaves yield the pulque of the Mexicans, and are valuable for fencing and the manufacture of fibre for rope, coarse bagging, paper-making, &c. Every species of acacia (mesquite, or algarobah, or carobs) grows with very little trouble in this south coast country, and requires very small expense in the cultivation. The finer qualities of the silk mulberry, as proved in thousands of experiments, are found to grow with great luxuriance in these sections, and is very hardy. The silk-worm is now being extensively raised in Santa Barbara, Los Angeles, and San José, and the quality of silk produced is highly approved,

as the caterpillars are exceedingly healthy. Mr. Wilson Flint, of Sacramento, is now cultivating thousands of the mulberry at that place, and establishing another plantation of a million of trees at Los Angeles. Mr. L. Prevost, of San José, the pioneer of silk culture on this coast, has also a large plantation of the mulberry at that town, where an extensive silk factory is now being established.

"The date palm of the Barbary coast has been grown at San Buenaventura and San Diego missions since 1790, and there is no doubt that, with government encouragement by grants of land, the entire plain of the Colorado valley could be cultivated with that invaluable tree, as it succeeds in all parts of Sonora and Lower California, being introduced at the old Jesuit missions since before the year 1700. This tree is not only one of the most valuable in commerce from its fruit, (every tree in full bearing producing about \$3 worth of fruit in Morocco,) but it is one of the most useful known for hundreds of household, shipping, and cultivating purposes. The fruit alone sustains man and beast without any other nutriment. Its cultivation, with that of the acacias, would in a quarter of a century redeem the Colorado country of its fearful aridity and desolation, and be one of the greatest of blessings to the Territory of Arizona.

"The olive was introduced into Los Angeles and San Diego before 1780, and is now cultivated as far up as San José city and in many places in the Sacramento and San Joaquin valleys. It is a very hardy tree from the sapling to its eightieth year, and succeeds as well as in Italy, Palestine, or Greece. The olives produced at the old missions of San Diego, San Gabriel, and San Buenaventura are not excelled in size or flavor by the best of Seville or Florence; and in the four coast counties mentioned there are not less than 15,000 trees, which are now over half a century old; many of them are eighty years old. The olive oil used in Catholic church service from 1800 to 1840, and also in family use, was all manufactured from the gardens of the old missions and those of private individuals. The olives cured at San Diego were said formerly to be the largest and best flavored in the world, even by old Italians, French, and Spaniards. There are probably now in the State not less than 200,600 olive trees, from one year old up to eighty, all of which were planted from the gardens of San Diego and Los Angeles, being introduced there from the Jesuit missions near Loretto and La Paz, as heretofore noted, *ante* 1780.

"The almond also has been grown in the mission gardens since about 1800, but never cultivated for profit until about 1854, since which year they have been extensively cultivated in the four counties named, from the almonds bought in the stores and also imported from southern Europe. It grows best in the strip of coast near the sea, between San Diego and Santa Barbara, where frosts are never severe nor winds strong enough to destroy the buds and flowers in early spring, a fault to which the tree is greatly exposed in the country drained by the Bay of San Francisco. In Santa Barbara the almond succeeds to perfection, is very hardy and easy to cultivate, and produces abundantly, there being six-year-old trees in the town which have yielded thirty pounds of the finest soft-shelled almonds. By the assessor's returns of 1865 there were 725 trees, and in 1866 these had increased to 4,860 trees, and it is very likely it will in a few years become a valuable addition to the industrial interests of California."

THE CHEMICAL LABORATORY.

Inconvenience having been experienced by persons forwarding samples for analysis which are not selected with care or in quantity sufficient, it is requested that the following instructions may be complied with when practicable:

Soils.—For partial analysis of a soil, four ounces by weight will suffice; but for a complete examination, not less than two pounds are required. The samples should represent in texture the whole field.

Limestones, clays, and ironstones.—If well marked and uniform samples, two to four ounces will be sufficient.

Manures, artificial.—Of those which are commercial, four ounces; made by the farmer, when uniform, four ounces; if not uniform, one pound. In the latter case the sender should select two or three handfuls from different portions, well mixed, and one pound separated, to be forwarded.

Waters.—Not less than two quarts should be sent to ascertain its saline constitution; for a complete analysis two to three gallons are required; if it be a mineral water it may be necessary to ascertain the gases present, in which case the bottles or jars should be filled while under water, with their mouths turned downward, and then stoppered in that position so tightly that the gases will not escape subsequently.

Specimens sent should be distinctly labelled and accompanied by a letter specifying the particular analysis required and the object in view, or the nature of the information needed, by observing which more satisfaction in the reply will be secured.

DECAY OF CHESTNUT TREES IN NORTH CAROLINA.

A correspondent writing from Wilkesboro', North Carolina, speaks of a peculiar fatality which has prevailed for the past three or four years among the chestnut trees in that locality. He says: "Nearly half the trees are dead in all the region of country extending from the top of the Brushy mountain, twenty miles east, which forms a strip running across the State from Patrick county, Virginia, to the Greenville district, South Carolina, say twenty miles broad and one hundred and fifty long, crossing the State from northeast to southwest. Their destruction seems to be caused by an insect (probably a worm) at the root, and the work is complete, for the tree 'dies all over;' no sprouting from the stump or other evidences of lingering life, as is common to this tree when the axe is applied to it, for then its death gives rise to a numerous and thrifty crop of sprouts that soon fill the space in the forest left vacant by taking the parent stock."

This disease may be caused by small larvæ between the bark and wood. If specimens of the bark and insects are sent to the department we can tell more about it.

AGRICULTURAL STATISTICS OF GREAT BRITAIN.

The following is a summary of the detailed statement recently issued by the British Board of Trade, giving the aggregate of population, area, acreage of crops and grass, percentage of corn crops, and total and proportionate number of cattle and sheep in England, Wales, and Scotland:

Abstract of Table No. 4.

	England.	Wales.	Scotland.	Total.
Population	18,954,444	1,111,780	3,062,294	23,128,518
Area, acres	32,590,397	4,734,486	19,639,377	56,964,260
Acreage in all crops—bare, fallow, and grass	22,261,833	2,284,674	4,158,360	28,704,867
Acreage grain crops	7,400,170	521,074	1,366,540	9,287,784
Acreage green crops	2,750,008	139,265	663,257	3,552,530
Acreage clover and grass in rotation	2,296,087	256,722	1,141,415	3,694,224
Acreage pasture and grass not in rotation	8,998,027	1,257,721	893,066	11,148,814
Percentage of grain crops to total acreage of all crops	33.2	22.8	32.9	32.4
Total number cattle	3,420,044	546,966	968,637	4,935,647
Proportionate number cattle to every 100 acres in crops	15.4	24.0	23.3	17.2
Total number sheep, March, 1866	15,124,541	1,668,663	5,255,077	22,048,281
Proportionate number sheep to every 100 acres in all crops	68.0	73.0	126.4	76.8

Abstract of Table No. 5.

	England.	Wales.	Scotland.	Total.
Wheat.....	3, 161, 431	113, 862	110, 101	3, 385, 394
Barley, or bere.....	1, 877, 387	146, 323	213, 619	2, 237, 329
Oats.....	1, 503, 990	251, 893	1, 004, 040	2, 759, 923
Rye.....	50, 570	2, 452	7, 055	60, 077
Beans.....	492, 586	3, 534	28, 537	524, 657
Peas.....	314, 206	3, 010	3, 188	320, 404
Total under corn crops.....	7, 400, 170	521, 074	1, 366, 540	9, 287, 784
Potatoes.....	311, 151	44, 266	143, 426	498, 843
Turnips and swedes.....	1, 600, 706	62, 442	478, 990	2, 142, 138
Mangold.....	254, 081	3, 864	852	258, 797
Carrots.....	15, 598	295	916	16, 809
Cabbage, kohl rabi, and rape.....	159, 539	1, 329	5, 075	165, 943
Vetches, lucern, and other crops, (except clover or grass).....	408, 933	27, 069	33, 998	470, 000
Total under green crops.....	2, 750, 008	139, 265	663, 257	3, 552, 530
Hops.....	56, 562	14	2	56, 578
Bare, fallow, or under-cropped arable land.....	760, 979	109, 878	94, 080	964, 937
Clover and other grasses in rotation..	2, 296, 087	256, 722	1, 141, 415	3, 694, 224
Permanent pasture meadow or grass..	8, 998, 027	1, 257, 721	893, 066	11, 148, 814
Total acreage.....	22, 261, 833	2, 284, 674	4, 158, 360	28, 704, 867

A NEW VARIETY OF SUMMER PEAR.

[Translated from the French.]

For many years past nurserymen and the writers on pomology have brought to our notice many new varieties of summer pears of a quality and flavor hitherto without parallel, but they have lacked one very important quality—size.

The French Imperial Journal of Horticulture has a somewhat extended notice, drawn up at the request of the committee on tree culture, of a new summer pear, from which we have condensed the following description.

It was originated by M. Ruillé de Beauchamp, of Pont Saint Martin, near Nantes, who has named it the *Poire de l'Assomption*, from the time of its ripening—that being from the first to the last of August, according to climate, place, and culture. M. de Beauchamp raised it from the seed in 1855, but as the seed was sown promiscuously, cannot tell from what variety it came. It bore its first fruit in 1863. It is vigorous, fruits readily and abundantly; resembles the *Colmar d'Aremburg* in wood, but in shape, the *Bon Chretien William*; the branches, however, are stouter than those of the latter, and somewhat swollen at the ends; the leaves more deeply serrated. This striking resemblance between the trees is also seen in the fruit; while as yet it has not acquired a definite shape, the *Poire de l'Assomption* sometimes resembles the *Bon Chretien William*, sometimes the *Colmar d'Aremburg*, and occasionally it even counterfeits the *Besi de Chaumontel*, but under what ever form it assumes, it always retains its magnificent size. The specimens submitted to the committee varied in weight from eight to ten ounces.

It would be easily mistaken for either of the above varieties, were it not for the difference in the time of maturing and the quality of the pulp. It is very

juicy, the flesh medium in texture, whitish, melting, though firm, in some specimens granulated at the core, the perfume strong and very agreeable. It is a great luxury to find, in the heat of August, a pear of such size and such agreeable and refreshing quality.

Besides being remarkable for early maturity and great size, it has another excellent quality, it does not grow mellow rapidly, seeming to await the leisure of the consumer.

*SULPHUR FOR BLIGHT OR MILDEW ON PEACHES AND ROSES.

[Translated from the French.]

At the September sitting of the French Imperial Society of Horticulture M. Lepère called the attention of the members to some very fine samples of the variety of peach known as the *Galande Bellegarde*. He said that variety of peach had been almost abandoned for several years by the cultivators of Montreuil because it was subject to blight or mildew, for which no remedy was found. He had continued to cultivate, and with great advantage, from the time when, by use of sulphur, he had been able to free the tree from the parasite which injured it.

M. Andy asked if the blight on roses could be overcome by the same remedy. M. Margotten replied that sulphur was a perfect cure for this disease in roses, but we must apply it as soon as the parasite appears, before it becomes firmly established. It is better that the shoots should be only about six or eight inches in length when the application is made.

This blight or mildew often appears just as the roses are ready to flower again, but a new application will remedy the evil. The remedy should be applied when the day is clear and warm, for the sulphurous acid, resulting from the slow combustion of the sulphur under the action of the sun's rays, quickly kills the parasite; whereas if the application be soon followed by rain the sulphur is washed away, and it becomes necessary to apply it again. M. Parnot confirmed, from his experience, the efficacy of the above remedy, as did M. Verdier, the latter, however, insisting that the remedy should be applied when the leaves of the shrub were very small.

EXTRACTS FROM CORRESPONDENCE.

DESTRUCTION OF INSECTS.

A correspondent writing from New York communicates the following recipe for the eradication of insects, &c., with the assurance that where it is properly applied these pests will, in a great measure, disappear from the orchards, grape-tries, &c. He wrote this direction for preparation and application: "*Preparation*.—Saw a hog'shead in two; put twenty to thirty pounds of sulphate of iron into one half, and fill up with chamber lye; (water will answer, but urine is best.) When the liquid becomes black it is fit for use." "*Application*.—The preparation must be applied to the trunks and branches of trees, and poured round the collars, which will kill and keep off all worms infesting these parts, and add vitality to the trees. It is also claimed that trees, grain, vines, &c., on being steeped (the roots) with the liquid a few hours before planting, will escape all worms which infest the roots, trunks, and branches, and the growth will be much accelerated." The writer further states that "sulphate of iron placed in the crotches of the tree and branches is of great benefit, and when applied early to the branches, trunks, and roots of trees, will avert the falling off of the fruit."

SEED EXPERIMENTS.

Jefferson county, N. Y.—The following are the results of experiments in the cultivation of seeds received from the department last season. From twenty-four ounces of "Page's Prolific" barley the yield was twenty-six pounds; twelve ounces of "Brewer's Delight" barley, thirteen pounds; twelve ounces Chevalier barley, twelve pounds—fifty-one pounds of barley from about three pounds of seed. There is not much difference in the looks or quality of the three varieties named, but all are good acquisitions, and I shall sow every kernel raised.

Superior, Wisconsin.—In August, 1865, I received about one and a half pound of white Mediterranean winter wheat, which was sown on land among standing corn, at the rate of one and a half bushel to the acre. On the 15th of August I harvested the same, the product being at the rate of forty bushels per acre of good quality wheat. I think this variety well adapted to our climate, and would be a profitable crop here.

A NEW YORK DAIRY.

Delaware county, N. Y.—This county is emphatically a butter county, and I wish a choice dairy could have been provided entire for the Paris Exposition, but it is now too late, as our dairymen have generally sold their butter. In a sworn statement presented at the annual meeting of the Delaware County Agricultural Society, Mr. Irvine has shown that from eleven cows he made and sold over 2,300 pounds of butter, besides supplying his family with butter and milk. As far as an average has been made the product of butter varies little from 150 pounds per cow for the past year. In 1864 the average was only a little over 100 pounds. The increase is due to keeping less stock and feeding better, and in increased economy in preventing loss.

EASTERN KENTUCKY.

Booneville, Ky.—The natural resources of this section of country have never been developed. A small portion of the lands are under cultivation, being very mountainous, and most of that which is brought under the plough is depleted by a wasteful system of culture, and either left to broom-sage or undergrowth, or cropped still at great expenditure of labor for small returns. A small portion of river bottom lands are too rich to be exhausted by surface culture, and is still very productive. Even that which has been abandoned is not exhausted, the culture received never penetrating the soil deep enough for that. The almost inexhaustible mineral resources of this county are comparatively unknown. This whole region, back to the Cumberland range, and even further, abounds in the richest minerals, consisting of iron, coal, (both stone and cannel,) gold, silver, lead, and an immense quantity of lithographic stone, reported to be the purest in the world, and said to exist nowhere else in America. All these valuables remain unused for want of means of transportation to market. * * * * There is more improvement in hogs than in any other stock in the county, and yet of less value, from the fact that disease is prevalent among swine here. The "hog cholera" has killed nearly one-half of last year's raising, and no remedy has yet been found. It is most prevalent during the fall and winter season.

PORCELAIN CLAYS.

Aiken, S. C.—A correspondent writes: "The kaolins of this county resemble those from China, and from Cornwall, in the high proportion of alumina and the low proportion of water, and is considered the best known in America for the manufacture of porcelain. The quality of these clays, abundant water facilities

for transportation, the immense forests affording cheap fuel, and the remarkable salubrity of the climate, afford a combination of advantages rarely to be found, and could they be properly brought to the attention of practical men would result in much advantage to this section."

BOTTS IN HORSES—HOG CHOLERA.

Berkeley county, W. Va.—"I give you herewith a recipe for the botts in horses: To tell whether it is an attack of colic or botts, take some fine salt and blow a mouthful into each nostril; if it is colic, water will begin in a few moments to drop from the nostrils; if not, it is the botts. In the latter case drench with a pint of melted hog's lard, and in a few hours repeat the dose.

* * * Four fatal cases of hog cholera have been reported to me since my last report. * * * From reliable data I make the following estimates of hogs slaughtered the past season in this county, exclusive of those killed in towns and villages: hogs slaughtered, 6,816; weight, 1,348,344 pounds; or an average of 197.8 pounds per hog. Average price of pork, \$8 50 per 100 pounds; giving a total value of \$114,609 24."

A GARDEN OF ACCLIMATION.

Little Valley, N. Y.—"I notice in your annual report of 1865 that you recommend the establishment of a government garden of acclimation, from whence the llama, Cashmere goat, and improved breeds of domestic fowls might be distributed to different parts of the country. I highly approve this suggestion, and would name several native animals which I think should be among the first to claim attention, viz: the American elk or great wapili deer, the beaver, the Hudson Bay sable, the mink, and otter. For fifteen years I have been experimenting to ascertain if some of our native wild animals could not be domesticated and become valuable additions to the wealth of the country. I commenced with the elk, and, although attended with some difficulty, for the want of experience in the commencement, the result has been a success, having bred and raised forty elk on my farm. Four years since I commenced experimenting with the mink, and, as with the elk, I found that it required some experience or skill to manage the wild ones taken from the woods until they should rear their first young, but with the second generation the difficulties were overcome, and it proves comparatively easy to raise them in large numbers. The great demand for these furs has nearly annihilated the race. My success with the mink, and the information obtained in relation to the beaver, Hudson Bay sable, and otter, gives me great confidence in the ultimate success with these fur bearing animals."

ELDER SUGAR.

Dixon, Ill.—"Last year I had some very fine asters, and a long, slim, black bug destroyed them by eating the flower. In the morning I would kill them, and before evening another swarm would literally cover them. I saved a few seeds, but do not like to plant them, for fear I might be propagating the bug."

[The insect injuring the asters is probably the *lytta*, a species of the *cantharidæ*, and which is very injurious to the aster.]

"I would say, for the benefit of the Agricultural Department, we have made sugar from the box-elder trees. The sap is very sweet, granulates as readily as the maple and makes a whiter sugar."

Table showing the average yield per acre and the average prices of the principal crops of the United States for 1866, and comparative amount of winter and spring wheat, in tenths.

States.	WHEAT.				RYE.		BARLEY.	
	Average yield per acre in 1866, stated in bushels.	Average price per bushel on 1st day of January, 1867.	How many tenths of the usual crop are winter wheat?	How many tenths of the usual crop are spring wheat?	Average yield per acre in 1866, stated in bushels.	Average price per bushel on 1st day of January, 1867.	Average yield per acre in 1866, stated in bushels.	Average price per bushel on 1st day of January, 1867.
Maine.....	12.7	\$2 86	1	9	17.	\$1 39	24	\$1 02
New Hampshire.....	16.2	2 58	2	8	16.	1 39	25	1 19
Vermont.....	20.2	2 67	1	9	18.5	1 51	29	1 23
Massachusetts.....	14.9	2 78	3.8	6.2	17.2	1 38	22	1 27
Rhode Island.....	15	2 80	3	7	17.6	1 44	28.3	1 15
Connecticut.....	17.3	2 83	5.7	4.3	13.	1 50	23.5	1 27
New York.....	15.2	2 67	6	4	16.3	1 21	23.5	1 06
New Jersey.....	13.5	2 93	10	—	14.	1 26	20	1 00
Pennsylvania.....	11	2 67	8	2	13.6	1 17	22.3	1 09
Delaware.....	8	3 00	10	—	9.5	1 33	—	—
Maryland.....	9.7	2 94	9	1	11.	1 16	25	1 00
Virginia.....	6.7	2 85	10	—	9.	1 06	7.5	95
North Carolina.....	5.8	2 72	8	2	6.7	1 70	—	—
South Carolina.....	4.7	3 19	9	1	5.	1 98	—	—
Georgia.....	4	2 72	9	1	4.8	1 34	8.2	1 84
Florida.....	—	—	—	—	—	—	—	—
Alabama.....	5.7	2 34	10	—	6.5	2 12	9	1 87
Mississippi.....	5	2 53	7	3	7.6	2 03	14	2 08
Louisiana.....	6	2 50	10	—	5.	2 50	—	—
Texas.....	12	1 45	8.6	1.4	17.	1 08	23	97
Arkansas.....	6.5	2 06	8.5	1.5	10.	1 67	12.5	1 50
Tennessee.....	5.3	2 21	9.4	.6	8.2	1 18	23.2	1 39
West Virginia.....	6	2 67	9.4	.6	11.3	1 11	17.7	1 19
Kentucky.....	6.5	2 30	9.8	.2	9.3	1 12	13.5	1 37
Missouri.....	16.5	2 01	8.7	1.3	19.8	97	25.5	1 03
Illinois.....	13	1 93	4.8	5.2	15.6	79	25	68
Indiana.....	5.9	2 41	9.6	.4	12.2	1 03	19	1 07
Ohio.....	4.2	2 52	9	1	10.8	1 09	19.5	1 14
Michigan.....	13.8	2 55	8.4	1.6	15.5	1 06	25	1 02
Wisconsin.....	14.5	1 67	2	8	16.6	83	25.2	90
Minnesota.....	15.6	1 36	5	9.5	20.	97	27	83
Iowa.....	16	1 42	1.4	8.6	19.3	69	25.4	67
Kansas.....	21.4	1 91	6.5	3.5	26.4	96	29	94
Nebraska.....	26	1 23	.5	9.5	26.	92	35.3	84
Colorado.....	25.6	2 60	1.5	8.5	20.	1 97	30.6	1 75
Utah.....	22.7	1 41	2.3	7.7	20.	1 25	25	1 33

Table showing the average yield per acre and the average prices of the principal crops of the United States for 1866—Continued.

State.	OATS.		CORN.		BUCKWHEAT.		POTATOES.	
	Average yield per acre in 1866, stated in bushels.	Average price per bushel on 1st day of January, 1867.	Average yield per acre in 1866, stated in bushels.	Average price per bushel on 1st day of January, 1867.	Average yield per acre in 1866, stated in bushels.	Average price per bushel on 1st day of January, 1867.	Average yield per acre in 1866, stated in bushels.	Average price per bushel on 1st day of January, 1867.
Maine.....	27.7	\$0 69	33	\$1 35	31	\$0 89.5	156	\$0 51
New Hampshire.....	29.2	68	32	1 37.5	22	1 08	132	49
Vermont.....	40.3	63	33.3	1 41	30	1 00	148	43
Massachusetts.....	29.2	76	34	1 34	20.4	1 02	139	69
Rhode Island.....	35	73	27.3	1 42	18	1 50	105	80
Connecticut.....	32	71	33	1 26	15	98	109	81
New York.....	33	61	27	1 16	26.2	92	107	69
New Jersey.....	34.5	61	43.3	1 03	18	1 15	77	86
Pennsylvania.....	33	50	34.4	91	21.4	96	99.3	76
Delaware.....	15	55	16	87	27.5	1 37	75	70
Maryland.....	26.6	55	30	93	25	1 08	70	80
Virginia.....	20	45	20	73	16.5	85	83	66
North Carolina.....	14.3	71	12	1 12	16	1 32	81	71
South Carolina.....	8.3	1 11	5.9	1 58	.....	.....	80	1 03
Georgia.....	10.7	1 00	6.2	1 52	.....	.....	62	77
Florida.....	22.5	1 25	13.2	1 50	.....	.....	187	85
Alabama.....	11.4	1 05	9	1 51	.....	.....	107	79
Mississippi.....	10.4	1 09	14.5	1 57	.....	.....	76	64
Louisiana.....	.....	.....	17	1 23	.....	.....	85	1 21
Texas.....	25.5	86	26	94	.....	.....	131	70
Arkansas.....	13	94	24	1 14	15	2 00	107	81
Tennessee.....	20	51	22	77	15	1 17	72	72
West Virginia.....	24.7	45	38.8	64	15.6	90	78.2	72
Kentucky.....	21.8	48	31.8	49	17.5	1 17	88	67
Missouri.....	30.7	44	30.8	58	21	93	92.3	79
Illinois.....	34	33	31.6	43	16.8	1 07	86.5	64
Indiana.....	29.3	35	36.5	44	19	1 02	79.3	57
Ohio.....	32.2	40	38	54	18.5	1 10	78	77
Michigan.....	34.7	47	32	82	20	98	110	56
Wisconsin.....	33.3	54	28.3	82	16	86	91	64
Minnesota.....	35.8	72	24	1 11	20	1 03	134	72
Iowa.....	37.8	39	31.5	44	16	1 01	72	89
Kansas.....	39	47	34.2	63	28	1 54	81	1 59
Nebraska.....	47.2	46	29.3	68	26	1 85	49	1 75
Colorado.....	41	1 53	30	2 19	17	3 63	175	1 40
Utah.....	35	92	28	1 17	.....	.....	163	67

Table showing the average yield per acre and the average prices of the principal crops of the United States for 1866, continued; also, the comparative amount of winter grain sown.

States.	Leaf tobacco.		Hay.		Sorghum molasses.	Winter wheat.		Winter rye.	Winter barley.	
	Average yield per acre in 1866, stated in pounds.	Average price per pound on the first day of January, 1867.	Average yield per acre in 1866, stated in tons.	Average price per ton on the first day of January, 1867.	Average yield per acre in 1866, stated in gallons.	Average price per gallon on the first day of January, 1867.	Average amount sown last fall, compared with 1865.	Average condition of same on the first day of January, 1867.	Average amount sown last fall, compared with 1865.	Average condition of same on the first day of January, 1867.
Maine			.8	19 28		10.5	10.7	10	10.3	
New Hampshire			.83	17 82		10	10	10	10	
Vermont			1.	15 61		10	11	11	11	
Massachusetts	20	1.	1.	28 39		10.2	10	10.2	10.2	
Rhode Island			1.	31 66				10	10.6	
Connecticut	1,200	19.5	1.4	25 60	93	1.02	11.3	10.4	11	
New York	718	13.5	1.2	16 18		10	10.3	9.7	10	8.5
New Jersey			1.26	35 00	70	10.3	11	10.3	10.5	
Pennsylvania	800	17	1.2	16 14	125	.83	10	11	10.5	10
Delaware			1.1	17 50	100	.70	12.5	9	10	
Maryland	693	10.3	1.3	20 27	81	.85	10.2	11.2	10	10.6
Virginia	718	13.7	1.3	14 28	79.5	.56	13	13	10.3	11.6
North Carolina	683	20.5	1.3	13 00	62.4	.64	11	10	11	10.3
South Carolina			1.	22 00	19.4	.82	9	9.6	10	9.2
Georgia	625	32	.9	23 62	67	.73	11.3	9.5		9.8
Florida			3.	20 62		.81				9.4
Alabama	322	31	1.	18 63	56	.82	10.5	10.5	10.3	10.5
Mississippi	250	36.6	.87	27 50	50.7	.87	7	10	8.7	10
Louisiana	400	60		30 00						
Texas	829	21	1.5	13 60	81	.87	9	8.7	9.7	9.5
Arkansas	650	32	1.3	26 43	63	1.04	9	9.5	10.5	10
Tennessee	712	21	1.4	18 63	85.5	.67	11	11.4	9	11
West Virginia	900	17.6	1.17	12 22	124	.70	8.7	12	9.6	10.7
Kentucky	755	9.5	1.37	12 80	98.8	.65	10.3	11.5	10	10.8
Missouri	877	11	1.9	9 91	88	.70	13.2	10.2	8.1	9.4
Illinois	666	9.3	1.47	9 27	97.6	.63	9	10.5	11.2	10.6
Indiana	837	8.4	1.23	9 44	109	.55	8.3	10	9.6	9.8
Ohio	860	6.7	1.3	11 00	132	.67	7.8	10.7	10	10.4
Michigan	1,200	17.3	1.3	13 75	120	.87	10.3	10	10	10.3
Wisconsin		25	1.3	12 25	122	.85	8.8	9.9	9.5	9.8
Minnesota	725	18	1.8	7 00	73.7	1.03	10	9.2	9.7	9.2
Iowa	988	32.5	1.9	6 20	98	.82	9.1	10.1	9.5	10.4
Kansas	550	29	2.	7 18	115	.84	7.3	8.4	9	9
Nebraska	430	24	1.5	6 43	118	1.04	10.7	9.7	11.7	10.7
Colorado			1.5	19 00			7.3	10.7	10.5	11
Utah			1.58	17 50	123	2.17	10	10.5		

Table showing the average yield per acre in 1866, and the prices of the principal farm products of California and Oregon on the 1st day of January, 1867.

Principal farm products.	California.		Oregon.	
	Average yield per acre in 1866.	Average price January 1, 1867.	Average yield per acre in 1866.	Average price January 1, 1867.
Wheat bushels..	29.3	\$1 27	26	\$0 63
Rye do.....	33.7	1 19	35	63
Barley do.....	39.5	83	37	62
Oats do.....	50	67	42	40
Corn do.....	45	1 25	35	1 35
Potatoes do.....	172	90	150	58
Hay tons..	1.65	12 75	1 $\frac{7}{8}$	17 50

The returns from California are not sufficient to insure perfect accuracy. They are given as the actual averages of returns from the counties reported.

WOOL CONSUMPTION.

It is with pleasure that space is accorded to Hon. David A. Wells, special commissioner of internal revenue, for an explanation relative to his estimate of an average annual consumption of six hundred millions of pounds of fleece wool or its substitutes. The error, it will be seen, is charged upon the manufacturers, and founded upon their estimate of 2,252,545 pounds weekly consumption of scoured wool during the exceptional year of 1864, when mills were running night and day—a basis which could not properly be taken for an average for other years. It is evident, however, that there is an error lying in this manufacturer's statement, and probably found in the word "scoured," as all but about twenty-eight per cent. was returned as domestic wool, requiring an amount nearly equal to the two clips of 1863 and 1864, and nearly two years' importation of foreign wool. *Besides, the returns of fleece wool from manufacturers to this department, for nearly the same period, almost exactly coincided in quantity with the aggregate of wool put down as "scoured" in the manufacturer's table.*

A portion of this explanation is devoted to showing that four pounds of wool are required to make one of cloth—a fact, as to foreign wool, that has never been disputed.

It is to be regretted, however, that Mr. Wells does not revise his estimate, and reduce in accordance with such revision his calculated statement of the cost of protection. The letter is as follows :

WASHINGTON, March 4, 1867.

SIR: In the monthly report of the Agricultural Department for January, 1867, a charge is brought against the Special Commissioner of the Revenue of having made a blunder "worse than the crime of intentional misrepresentation,"

in greatly over-estimating, in his recent report to Congress, the present average annual consumption of wool and woollens. A charge so grave as this, and appearing in an official publication, would seem to require something in the way of a reply or defence, and I accordingly submit the following statements:

As a basis for a proposed change in the tariff on wool and woollens, the authorized representatives of the wool-growers and woollen manufacturers submitted to Congress in May, 1866, through the medium of the Revenue Commission, a series of reports, which purported to contain the most full and reliable information respecting the condition and prospects of the great industries in question. These reports may be found in the bound volume of the Report of the Revenue Commission, (pages 347 to 480, inclusive,) and from the high character and intelligence of the names attached to them, must be accepted by the public, as they have been by the Special Commissioner of the Revenue, as of unquestionable authority.

By referring to these reports, pages 423 and 424, it will be seen that the number of sets of woollen machinery (a set forming the unit of calculation) *actually employed* in the United States on the 25th of October, 1865, as reported to the Woollen Manufacturers' Association, was 4,100. The committee further state that all the sets of machinery in the country were not reported, and they estimate the actual number to be considerably larger, viz., 5,000.

They moreover show, in an elaborate table based on careful inquiry and correspondence, that the actual consumption of scoured wool, on the 4,100 sets of machinery reported, averaged 2,252,545 pounds per week, or 117,132,340 pounds per annum. Supposing the 900 sets not reported to consume scoured wool in an equal ratio with the 4,100 sets actually reported, we hence have, according to the statement of the best informed woollen manufacturers of the United States, an annual consumption of scoured wool, on the machinery then in existence, of 142,844,317 pounds. Making all proper allowance for shrinkage, it will, therefore, be seen that the Special Commissioner would have been warranted in assuming a larger figure than 117,000,000 pounds as the annual product in cloth, of the existing woollen machinery of the United States *in prosperous times*. This last limitation the Commissioner was careful to express, for it is not to be supposed that the people will construct expensive machinery without some reasonable anticipation that its employment will be found expedient and advantageous.

Now it is submitted that the Special Commissioner of the Revenue was warranted in assuming the above statement (the correctness of which was fully vouched for by the appended signatures of the leading wool-growers and woollen manufacturers of the country) as the basis of his estimates; and that if a blunder has been committed in over-estimating, "the crime of intentional misrepresentation" certainly cannot be laid to *his* account.

As regards the estimate of the weight of the foreign woollens imported into the United States during 1866, he can only say that it was made for the Special Commissioner by experts, and by averaging the actual weight of the different varieties of fabrics, and that its correctness is susceptible of the most ample proof.

Again, it is further charged that the Commissioner has fallen into another grievous error in assuming that four pounds of wool are required in all cases to make one pound of cloth, and that the tax on wool aggregates to the consumer in this proportion; the specific charge being that all wool does not shrink in this proportion, but only certain varieties.

In reply to this he would say that he does not find in the officially published estimates by the wool-growers and woollen-manufacturers, as the basis for the calculation of compensating duties on woollens, any limitation of this shrinkage. They apply it most unmistakably to all wools, and use the following language—(See Report of Revenue Commission, page 447:)

"To determine the amount of reimbursing specific duties which the manufacturer should receive as an equivalent for the proposed increased duty on wool,

we must, in the first place, apply the rule adopted in the present and preceding tariff bills, and multiply the proposed duty on wool (eleven and a half cents) by four, the number of pounds of wool to a pound of finished cloth."

It will be observed that this rule is made absolute and without qualification. No matter whether the wool of which the imported cloth is made shrinks in the process of manufacture four pounds or two pounds, the duty is increased upon one principle, and aggregates the cost of all imported woollens alike. Whether the increased duty imposed on foreign wool and woollens increases to the same extent the price of the domestic product, is a question which experience will answer. That it has done so in the case of other staple articles, like teas, sugars, coffee, and spices, any one can satisfy himself by comparing prices before and after the passage of the several tariff acts increasing duties; and that it will so operate in all other instances where consumption is not greatly interrupted and where a large surplus has not accumulated on the market, cannot be doubted. The question as to the ratio of shrinkage of the various wools is therefore entirely irrelevant, inasmuch as if four cents is imposed on woollens for every one cent imposed on wool, irrespective of shrinkage, then prices will be enhanced in this proportion. If the shrinkage on foreign wool is not, as the wool-growers and manufacturers assume, in the ratio of four of wool to one of cloth, then the protection asked for on woollens is more than is equable and necessary; but the tax once imposed, the enhancement of prices takes place in the manner indicated.

I am yours, most respectfully,

DAVID A. WELLS, 2

United States Special Commissioner of Revenue.

Hon. ISAAC NEWTON,

Commissioner of Agriculture.

METEOROLOGY.

NOTE.—Observers will please write all matters intended specially for the Department of Agriculture (as requests for seeds, notes of crops, &c.) on a separate paper, with name, post office, and State legibly signed, to secure attention.

Reports should be forwarded early each month, so as to allow time for attention at the Smithsonian Institution *after* being used in the Department of Agriculture.

JANUARY, 1867.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and the amount of rain, (in inches and tenths,) for January, 1867, at the following places, as given by the observers named. The daily observations were made at 7 o'clock a. m. and 2 and 9 p. m.

Stations.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain or melted snow.
MAINE.								
Steuben	Washington	J. D. Parker	22	36	31	-12	17.0	3.75
Williamsburg	Piscataquis	E. & H. W. Pitman	22	32	20, 30	-16	9.63	1.90
West Waterville	Kennebec	B. F. Wilbur	22	37	20	-14	13.8	3.70
Gardiner	do	R. H. Gardiner	22	33	20	-17	13.1	2.62
Lisbon	Androscoggin	Asa P. Moore			20	-23		1.80
Webster	do	Almon Robinson	22	35	20	-19	13.2	
Standish	Cumberland	John P. Moulton	22, 25	36	20, 31	-12	16.6	1.77
Cornish	York	Silas West	22	34	20	-10	14.1	2.50
Cornishville	do	G. W. Guptill	22	34	30	-8	14.9	3.20
NEW HAMPSHIRE.								
Stratford	Coos	Branch Brown	23, 26	28	16	-20	8.7	1.45
North Barnstead	Belknap	C. H. Pitman	25	40	20	-7	17.6	1.85
Concord	Merrimac	John T. Wheeler	22	36	20, 31	-13	16.0	1.50
Iaremont	Sullivan	Arthur Chase	6	31	31	-15	12.6	1.85
Do	do	S. O. Mead	27	36	20	-18	12.5	
Portsmouth	Rockingham	John Hatch	22	40	31	-8	21.3	2.97
VERMONT.								
Lunenburg	Essex	H. A. Cutting	23	30	18	-20	9.3	2.05
Craftsbury	Orleans	James A. Paddock	6	27	16	-15	9.6	1.75
Randolph	Orange	Charles S. Paine	6	32	16	-22	9.9	1.63
Middlebury	Addison	H. A. Sheldon	5, 6	32	16	-21	11.5	1.85
Brandon	Rutland	H. Buckland	6	34	16	-18	13.1	1.12
Barnet	Caledonia	B. F. Eaton, M. D.	22	30	19, 31	-20	7.7	1.00
Wilmington	Windham	Rev. J. B. Perry	25	31	16	-16	12.5	
MASSACHUSETTS.								
Kingston	Plymouth	G. S. Newcomb	5	40	20	-5	22.5	2.90

Table showing the range of the thermometer, &c., for January—Continued.

Stations.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain or melted snow.
MASSACHUSETTS—C'd.								
				°		°	°	In.
Topsfield	Essex	S. A. Merriam	25	46	30	2	21.6	5.07
Lawrence	do	John Fallon	5	33	16	— 1	18.4	3.96
Newbury	do	John H. Caldwell	5	41	31	— 6	18.2	.....
Milton	Norfolk	Rev. A. K. Teele	25	39	20	— 7	19.1	3.60
North Billerica	Middlesex	Rev. E. Nason	5	42	30	—18	16.7	.....
New Bedford	Bristol	Samuel Rodman	21	41	19	— 2	22.4	2.72
Do	do	Edward T. Tucker	26	45	20	—10	21.9	2.99
Worcester	Worcester	Joseph Draper, M.D.	5	34	19, 20	0	19.1	5.16
Mendon	do	J. G. Metcalf, M. D.	5, 26	30	20	—13	16.3	3.00
Lunenburg	do	G. A. Cunningham	5	38	20	— 5	17.0	2.95
Amherst	Hampshire	Prof. E. S. Snell	24	34	16	— 5	18.3	1.34
Richmond	Berkshire	Wm. Bacon	25	32	16	— 8	15.5	5.25
Williams College	do	Prof. A. Hopkins	5, 6	30	16	—16	14.1	1.65
RHODE ISLAND.								
Newport	Newport	Wm. H. Crandall	5	40	30	0	22.7	1.97
CONNECTICUT.								
Pomfret	Windham	Rev. D. Hunt	5	33	16, 19, 20	— 2	19.9	1.26
Columbia	Tolland	Wm. H. Yeomans	23	36	20	—10	19.7	3.10
Middletown	Middlesex	Prof. J. & A. Johnston	24	37	20	— 9	19.6	2.41
Colebrook	Litchfield	Charlotte Rockwell	25, 26	32	30	— 9	14.0	.....
Groton	New London	Rev. E. Dewhurst	5	39	20	— 1	23.2	3.27
NEW YORK.								
Moriches	Suffolk	E. A. Smith & daugh's	5	48	20	—14	25.5	2.44
South Hartford	Washington	G. M. Ingalsbe	6	34	16	—22	14.6	1.41
Germantown	Columbia	Rev. S. W. Roe	10	40	16	— 6	21.2	1.90
Garrison's	Putnam	Thomas B. Arden	26	38	16	0	18.4	2.35
Throg's Neck	Westchester	Miss E. Morris	5, 26	38	16	4	22.7	.....
Deaf & Dumb Inst.	New York	Prof. O. W. Morris	26	37	29	4	23.2	2.54
Columbia College	do	Prof. Chas. A. Joy	26	37	18, 30	8	22.6	2.34
St. Xavier's College	do	Rev. Jno. M. Aubier	26	37	30	9	24.0	.....
Flatbush	Kings	Eli T. Mack	5	38	16, 20	5	23.0	0.70
Newburgh	Orange	Jas. H. Gardiner	24	42	16	— 6	21.1	2.13
Gouverneur	St. Lawrence	Cyrus H. Russell	24	32	30	—25	11.5	1.21
North Hammond	do	C. A. Wooster	26	31	16	—20	11.2	3.36
South Trenton	Oneida	Storrs Barrows	21	30	16	—18	13.9	2.35
Oneida	Madison	S. Spooner, M. D.	10	33	15, 16	—14	16.8	2.65
Cazenovia	do	Prof. Wm. Soule	4	34	15	—15	15.7	.....
Houseville	Lewis	Walter D. Yale	5, 25	34	30	—16	12.3	1.53
Depayville	Jefferson	Henry Haas	5	34	30	—13	14.3	2.08
Theresa	do	S. O. Gregory	31	32	15	—17	.....	2.00
Oswego	Oswego	Wm. S. Malcolm	5, 10	32	16	— 4	19.1	4.26
Palermo	do	E. B. Bartlett	5	31	15	—15	14.6	4.70
Baldwinsville	Onondaga	John Bowman	5	33	16	— 9	17.4	1.85
Skaneateles	do	W. M. Beauchamp	1	39	15	— 4	18.8	7.10
Nichols	Tioga	Robert Howell	5	36	16	— 5	18.7	.....
Geneva	Ontario	Rev. W. D. Wilson	5	36	15	5	19.3	1.30
Rochester	Monroe	M. M. Mathews, M.D.	4, 5	35	14, 19	8	20.9	2.68
Rochester Univ.	do	Prof. C. Dewey	31	37	15	1	18.8	2.63

Table showing the range of the thermometer, &c., for January—Continued.

Stations.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain or melted snow.
NEW YORK—Con'd.								
Little Genesee.....	Allegany.....	Daniel Edwards.....	31	44	30	—17	17.4	1.90
Friendship.....	do.....	George W. Fries.....	31	45	15	— 6	16.0	.....
Buffalo.....	Erie.....	Wm. Ives.....	5	37	19	2	20.3	2.42
NEW JERSEY.								
Paterson.....	Passaic.....	Wm. Brooks.....	1, 6, 24, 26	36	30	— 1	21.4	1.86
Newark.....	Essex.....	W. A. Whitehead.....	26	39	20	1	22.7	1.61
New Brunswick.....	Middlesex.....	Geo. H. Cook.....	6	36	16, 20, 30	2	21.1	0.64
Trenton.....	Mercer.....	E. R. Cook.....	6	40	30	9	26.7	1.55
Burlington.....	Burlington.....	John C. Deacon.....	5, 6	40	16, 20, 30	4	21.9	1.50
Moorestown.....	do.....	Thos. J. Beans.....	5	44	16	1	22.2	1.13
Mount Holly.....	do.....	M. J. Rhees, M.D.....	6	41	16	4	23.8	1.60
Seaville.....	Cape May.....	Barker Cole.....	10	40	29	6	26.6	2.53
Dover.....	Morris.....	Howard Shriver.....	26	39	20	— 5	21.9	1.90
Readington.....	Somerset.....	John Fleming.....	24, 26	38	20	0	21.7	2.08
Haddonfield.....	Camden.....	Samuel Wood.....	6	37	16	5	21.7	2.10
Greenwich.....	Cumberland.....	R. C. Sheppard.....	31	38	16	— 1	23.8	1.74
PENNSYLVANIA.								
Nyces.....	Pike.....	John Grathwohl.....	4	43	20	—16	15.4	1.70
Fallsington.....	Bucks.....	Ebenezer Hance.....	26	43	16	1	23.7	1.70
Philadelphia.....	Philadelphia.....	Pf. J. A. Kirkpatrick.....	5	41	30	11	26.3	1.93
Germantown.....	do.....	Thomas Meehan.....	6, 12, 31	38	30	4	23.8	3.60
Horsham.....	Montgomery.....	Anna Spencer.....	6	39	30	3	21.7	1.10
Dyberry.....	Wayne.....	Theodore Day.....	4	43	16	—17	15.6	1.80
North Whitehall.....	Lehigh.....	Edward Kohler.....	6	38	16	— 3	21.2	1.43
Parkesville.....	Chester.....	F. Darlington.....	5, 26	34	16	— 6	21.6	1.32
Reading.....	Berks.....	J. Heyl Raser.....	26	39	3, 20, 30	7	24.4	.....
Ephrata.....	Lancaster.....	W. H. Spera.....	5, 26	36	16	— 2	22.1	1.72
Silver Spring.....	do.....	H. G. Buckhart.....	5	38	3	0	23.0	1.33
Mount Joy.....	do.....	J. R. Hoffer.....	24	45	16	3	25.9	1.10
Harrisburg.....	Dauphin.....	John Heisely, M. D.....	5, 6	36	20, 30	10	23.7	2.09
Lewisburg.....	Union.....	Prof. C. S. James.....	6	34	3, 16	—13	17.8	1.61
* Tioga.....	Tioga.....	E. T. Bentley.....	5	40	30	—18	17.8	1.05
Pennsville.....	Clearfield.....	Elisba Fenton.....	4	32	30	—14	16.1	2.73
Connellsville.....	Fayette.....	John Taylor.....	31	55	30	—10	19.3	.....
New Castle.....	Lawrence.....	E. M. McConnell.....	31	43	30	—16	20.2	.....
Canonsburg.....	Washington.....	Rev. W. Smith, D. D.....	31	47	30	—20	18.2	0.97
DELAWARE.								
Delaware City.....	New Castle.....	J. M. Vanhekle.....	5, 6, 9, 26, 31	38	16	2	24.3	.....
MARYLAND.								
Woodlawn.....	Cecil.....	Jas. O. McCormick.....	3	46	30	3	24.2	1.00
Catonsville.....	Baltimore.....	Grape & Ranlett.....	26	39	30	5	23.8	1.25
Annapolis.....	Anne Arundel.....	Wm. R. Goodman.....	9	46	3	2	30.1	1.32
St. Inigoes.....	St. Mary's.....	Rev. J. Stephenson.....	5, 31	43	30	10	27.4	1.12
Emmitsburg.....	Frederick.....	Eli Smith.....	24	42	30	— 2	22.3	1.53
VIRGINIA.								
Lynchburg.....	Bedford.....	Chas. T. Meriwether.....	31	44	19	16	32.	0.80.

Table showing the range of the thermometer, &c., for January—Continued.

Stations.	Counties.	Observers.	Note.	Max. temp.	Date.	temp.	Mean temp.	Rain or melted snow.
WEST VIRGINIA.								
Romney	Hampshire	W. H. McDowell	4	56	17, 24, 30	0	21.7	In.
Cabell Court-house ..	Cabell	C. L. Roffe	31	58	19	5	27.6	1.50
Grafton	Taylor	Dr. W. H. Sharp	31	52	30	-10	24.4	2.40
Weston	Lewis .....	.....	31	55	30	-8	24.4	.....
NORTH CAROLINA.								
Goldsboro'	Wayne	E. W. Adams, A. M.	31	61	18	15	37.0	5.02
Oxford	Granville	J. H. Mills	31	50	18	15	30.8	2.69
Raleigh	Wake	Rev. F. P. Brewer	31	58	5	12	31.6	.....
Albemarle	Stanley	F. J. Kron	14	58	19	10	33.1	3.33
SOUTH CAROLINA.								
Aiken	Barnwell	Rev. Jno. H. Cornish	14	73	18	21	40.8	2.36
GEORGIA.								
Atlanta	Fulton	Frederick Deckner	14	68	18	10	35.9	1.70
ALABAMA.								
Moulton	Lawrence	Thomas M. Peters	31	69	18	18	38.4	0.26
Fish River	Baldwin	W. J. Van Kirk	12, 23	70	11	30	50.9	0.90
FLORIDA.								
Fernandina	Nassau	H. M. Corey	13	76	19, 27	28	48.3	.....
Gordon	Alachua	H. B. Scott	13	73	10	28	51.0	.....
Jacksonville	Duval	A. S. Baldwin, M. D.	13	79	18, 19	32	52.1	4.62
TEXAS.								
Chapel Hill	Washington	W. H. Gaunt, M. D.	13, 22, 23	78	1, 2	20	53.7	0.75
Austin	Travis	J. Van Nostrand	24	78	2, 3	17	51.1	0.00
MISSISSIPPI.								
Fayette	Jefferson	Rev. T. H. Cleland	13, 14	74	2	22	45.4	.....
Natchez	Adams	William McCary	14	80	2	22	49.2	1.97
Kingston	do	J. Edwards Smith	13, 14	77	2	26	50.0	0.75
ARKANSAS.								
Fort Smith	Sebastian	Rev. Frs. Springer	31	71	3	3	37.2	.....
TENNESSEE.								
Tusculum College ..	Green	S. S. & W. S. Doak	25	56	2, 17, 18	10	30.1	.....
Clarksville	Montgomery	Pf. Wm. M. Stewart	31	62	18	4	31.7	1.61
KENTUCKY.								
Louisville	Jefferson	Mrs. L. Young	31	57	22	2	26.6	2.93
Chilesburg	Fayette	Dr. S. Martin	31	55	18	6	26.6	3.19
OHIO.								
New Lisbon	Columbiana	J. F. Benner	31	47	30	-18	20.3	3.59
East Fairfield	do	S. B. McMillan	31	41	30	-8	18.8	2.00
Staubenville	Jefferson	Joseph B. Doyle	31	45	30	-8	22.0	.....
Milnersville	Guernsey	Rev. D. Thompson	31	46	30	-20	18.3	2.19
Cleveland	Cayuhoga	T. A. Smurr, M. D.	31	46	30	-4	20.2	.....
East Cleveland	do	Mr. and Mrs. G. A. Hyde.	31	49	30	-5	20.7	2.34
Wooster	Wayne	Martin Winger	25	38	30	-24	18.3	.....

Table showing the range of the thermometer, &c., for January—Continued.

Stations.	Counties.	Observers.	Date.	Max. temp.	Date.	M'n. temp.	Mean temp.	Rain or melted snow.
OHIO—Cont'd.				°		°	°	In.
Gallipolis.....	Gallia.....	A. P. Rodgers.....	31	56	30	0	23.6	1.92
Kelley's Island.....	Erie.....	Geo. C. Huntington..	31	44	30	—2	20.7	1.46
Norwalk.....	Huron.....	Rev. A. Newton.....	31	48	30	—12	19.8	1.64
Westerville.....	Franklin.....	Prof. H. A. Thompson	31	49	30	—17	21.0	1.60
Kingston.....	Ross.....	Prof. John Haywood	31	49	30	—12	20.4	2.12
Toledo.....	Lucas.....	J. B. Trembley, M.D.	31	46	19, 30	—6	19.6	1.50
Marion.....	Marion.....	H. A. True, M. D....	31	42	30	—17	17.2	2.35
Kenton.....	Hardin.....	C. H. Smith, M. D....	31	55	29	5	31.4	3.50
Urbana University..	Champaign.....	M. G. Williams.....	31	46	30	—15	17.9	1.60
Hillsborough.....	Highland.....	J. McD. Mathews.....	31	50	17	—4	20.7	1.94
Ripley.....	Brown.....	Dr. G. Bambach.....	31	59	19, 30	4	25.6	2.52
Bethel.....	Clermont.....	George W. Crane.....	31	51	30	—4	20.0	2.75
Cincinnati.....	Hamilton.....	George W. Harper.....	31	53	17	—1	23.5	1.41
Do.....	do.....	R. C. Phillips.....	31	50	17	4	27.3	1.27
College Hill.....	do.....	John W. Hammitt.....	31	52	17	—5	22.6	2.50
Farm School.....	do.....	L. B. Tuckerman.....	31	54	17	—2	22.2	2.90
Painesville.....	Lake.....	E. J. Ferriss.....	31	44	30	3	19.8	4.40
La Fayette.....	Allen.....	Samuel Knoble.....	31	49	30	—14	20.2	4.60
MICHIGAN.				°				
Monroe City.....	Monroe.....	F. & E. Whelpley..	31	48	30	—8	21.1	2.50
State Agricult'l Col.	Ingham.....	Prof. R. C. Kedzie..	31	46	30	—15	17.6	1.68
Litchfield.....	Hillsdale.....	R. Bullard.....	31	44	12	—10	16.3	1.13
Grand Rapids.....	Kent.....	E. S. Holmes, D.D.S.	31	42	12	—12	14.9	2.54
Kalamazoo.....	Kalamazoo.....	Milton Chase, M. D..	6	38	2	4	21.9	-----
Northport.....	Leelenaw.....	Rev. Geo. N. Smith..	4, 31	32	19	—4	19.5	-----
Holland.....	Ottawa.....	L. H. Streng.....	31	43	15	—4	22.7	3.90
Ontonagon.....	Ontonagon.....	Edwin Ellis, M. D....	3	32	29	—10	13.8	2.00
Homestead.....	Benzie.....	George E. Steele.....	31	37	19	—8	19.4	-----
INDIANA.								
Richmond.....	Wayne.....	John Valentine.....	31	44	30	—13	17.4	2.53
Vevay.....	Switzerland.....	Chas. G. Boerner.....	31	57	29, 30	0	24.7	6.18
Muncie.....	Delaware.....	G. W. H. Kemper, MD.	31	47	30	—11	19.3	2.45
Spiceland.....	Henry.....	William Dawson.....	31	47	17	—11	19.7	2.50
Columbia City.....	Whitley.....	Dr. F. & Miss McCoy	31	49	30	—16	19.3	1.00
Indianapolis.....	Marion.....	Mrs. Z. Butterfield, A. M.	31	50	29	—10	21.6	-----
Rensselaer.....	Jasper.....	J. H. Loughridge.....	31	43	17	—16	16.1	3.30
Merom.....	Sullivan.....	Thomas Holmes.....	31	48	18	—5	21.9	2.80
New Harmony.....	Posey.....	John Chappellsmith.	31	55	22	—2	26.3	2.59
ILLINOIS.								
Chicago.....	Cook.....	J. G. Langguth, jr..	31	42	17	—18	20.3	1.92
Riley.....	McHenry.....	E. Babcock.....	31	38	29	—28	12.9	2.50
Golconda.....	Pope.....	W. V. Eldredge.....	16, 31	61	23	—8	27.2	1.90
Aurora.....	Kane.....	A. Spaulding.....	31	41	17	—18	14.8	2.45
Sandwich.....	DeKalb.....	N. E. Ballou, M. D..	31	43	29	—20	14.6	2.20
Ottawa.....	La Salle.....	Mrs. E. H. Merwin..	31	44	29	—10	23.2	1.28
Winnebago.....	Winnebago.....	J. W. & Miss Tolman	31	41	17	—22	12.9	2.86
Magnolia.....	Putnam.....	Henry K. Smith.....	31	50	17	—16	16.7	3.00
Rochelle.....	Ogle.....	Daniel Carey.....	31	44	29	—21	15.9	-----
Wyanet.....	Bureau.....	E. S. & Miss Phelps..	31	40	29	—17	17.3	1.48

Table showing the range of the thermometer, &c., for January—Continued.

Stations.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean. temp.	Rain or melted snow.
ILLINOIS—Cont'd.								
Tiskilwa	Bureau	Verry Aldrich	31	° 45	17, 29	—12	° 19.6	<i>In.</i> 1.10
Elmira	Stark	O. A. Blanchard	31	46	17	—14	18.3	0.75
Peoria	Peoria	Frederick Brendel	31	45	29	—10	19.6	1.36
Springfield	Sangamon	G. M. Brinkerhoff	6	46	17, 28	—4	19.8	.....
Loami	do	Timothy Dudley	31	52	17	—9	20.1	2.70
Waterloo	Monroe	H. Künster	6	54	18	—2	25.4	.....
Galesburg	Knox	Pf. W. Livingston	31	48	17	—10	16.7	0.45
Manchester	Scott	Dr. J. & C. W. Grant	31	56	28	—4	20.9	1.60
Mount Sterling	Brown	Rev. A. Duncan	31	62	17	—6	21.3	1.45
Andalusia	Rock Island	E. H. Bowman, M. D.	31	48	21	1	20.5	.....
Augusta	Hancock	S. B. Mead, M. D.	31	54	17	—6	20.7	1.85
WISCONSIN.								
Manitowoc	Manitowoc	Jacob Lüps	31	35	17	—15	17.4	1.65
Plymouth	Sheboygan	G. Moeller	31	35	17	—20	14.5	2.70
Milwaukee	Milwaukee	I. A. Lapham, LL.D.	5, 31	42	17	—16	17.5	2.61
Ida	do	Carl Winkler, M. D.	31	39	17	—14	18.8	2.05
Delavan	Walworth	Leveus Eddy	31	40	17, 29	—23	13.6	1.75
Waupacca	Waupacca	H. C. Mead	3	35	17	—18	18.2	2.40
Embarrass	do	E. Everett Breed	4, 20	28	17	—18	12.3	2.39
Rocky Run	Columbia	W. W. Curtis	31	37	17, 29	—18	16.5	2.00
Beloit	Rock	H. D. Porter	31	37	29	—19	14.2	2.67
Baraboo	Sauk	M. C. Waite	31	39	29	—15	18.9	5.21
Bayfield	Bayfield	Andrew Tate	3, 12, 31	30	29	—12	14.3	.....
MINNESOTA.								
Afton	Washington	Mrs. and Dr. B. F. Babcock	3	34	29	—25	8.0	.....
St. Paul	Ramsey	Rev. A. B. Paterson	3	31	17, 29	—27	8.1	0.97
Do	do	Jno. W. Heimstreet	3	39	17, 29	—22	9.6	1.20
Minneapolis	Hennepin	Wm. Cheney	3	38	29	—32	8.3	1.66
Sibley	Sibley	C. E. and C. W. Wood- bury	3	37	17	—31	8.1	0.85
New Ulm	Brown	Charles Roos	3	40	17	—22	10.5	0.84
IOWA.								
Clinton	Clinton	J. P. Farnsworth, M.D.	31	40	29	—20	17.9	2.50
Lyons	do	A. T. Hudson	7, 31	36	29	—24	15.6	1.25
Davenport	Scott	Sydney Smith	31	42	29	—15	15.0	0.25
Dubuque	Dubuque	Asa Horr, M. D.	31	42	29	—20	15.4	2.63
Muscatine	Muscatine	J. P. Walton	31	47	29	—14	16.0	0.75
Monticello	Jones	M. M. Moulton	7, 31	40	29	—22	17.8	1.25
Fort Madison	Lee	D. McCready	31	50	29	—10	18.9	0.90
Guttenburg	Clayton	Jas. P. Dickerson	31	40	29	—30	11.4	1.30
Ceres	do	J. M. Hagehsick	31	40	17	—20	14.4	.....
Mount Vernon	Linn	Prof. A. Collins	31	44	29	—20	14.8	.....
Iowa City	Johnson	Prof. T. S. Parvin	31	45	29	—18	17.9	1.26
Independence	Buchanan	Mrs. D. B. Wheaton	31	40	29	—26	9.6	1.60
Do	do	D. S. Deering	31	40	29	—20	14.2	1.20
Waterloo	Black Hawk	T. Steed	4, 31	40	29	—16	14.0	.....
Iowa Falls	Hardin	N. Townsend	4	36	17	—18	13.3	1.40
Des Moines	Polk	Rev. J. A. Nash	3	46	28	—11	15.1	1.55
Algona	Kossuth	Philip Dorweiler	3	37	17	—22	8.2	1.70

Table showing the range of the thermometer, &c., for January—Continued.

Stations.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain or melted snow.
IOWA—Continued.								
Fontanelle	Adair	A. F. Bryant	31	38	27	—10	14.0	1.65
Harris Grove	Harrison	Jacob F. Stern	31	39	27	—10	15.5	2.70
Fort Dodge	Webster	C. N. Jorgensen	31	36	17	—16	11.0	.....
MISSOURI.								
St. Louis	St. Louis	G. Engelmann, M.D.	31	58	18, 28	5	25.6	2.29
St. Louis University	do	Rev. F. H. Stuntebeck	31	59	17, 18	5	26.3	2.02
Allenton	do	A. Fendler	31	61	2	7	22.0	2.66
Union	Franklin	Miss Belle Moore	31	61	2, 21, 22	0	25.4	1.45
Edinburg	Grundy	J. E. Vertrees, A. M.	31	53	27	—7	17.3	.....
Harrisonville	Cass	John Christian	31	62	1, 2	—6	22.9	1.88
KANSAS.								
Leavenworth	Leavenworth	J. Stayman, M. D.	31	56	1	—10	20.1	1.93
Olatha	Johnson	W. Beckwith	31	60	1	—8	21.4	.....
Atchison	Atchison	Dr. H. B. and Miss Horn.	31	48	1, 27	—6	20.7	1.90
State Agr. College ..	Riley	Prof. B. F. Mudge	15	47	27	—12	22.5	0.63
Council Grove	Morris	A. Woodworth, M. D.	15	48	27	—12	24.0	0.70
Le Roy	Coffey	J. G. Shoemaker	31	67	2	—7	23.9	1.40
Burlingame	Shawnee	J. H. Stubbs	12	56	27	—8	.....	0.50
NEBRASKA.								
Elkhorn	Washington	John S. Bowen	31	36	27	—10	14.6	2.28
Bellevue	Sarpy	Rev. Wm. Hamilton	31	40	1	—2	18.5	1.80
Glendale	Cass	Dr. A. L. and Miss Child.	31	37	27	—10	14.5	1.84

NOTES OF THE WEATHER—JANUARY, 1867.

FROM THE SMITHSONIAN INSTITUTION.

This month was characterized by its steady low temperature and the number and severity of snow-storms.

Gardiner, Maine.—The mean temperature of the month was 4.77 degrees below the average of thirty-one years, and the amount of rain and melted snow 83 hundredths of an inch less than the average for twenty-nine years. There was sleighing and the river was frozen every day during the month.

Standish, Maine.—January 17.—Roads completely blocked up; drifts from one to twenty rods wide, and from one to eight feet deep. It took some districts two days to break out their roads. 31.—The month has been very dry; snow softened in only three days in the roads; the ground is frozen but a little in the woods.

Cornish, Maine.—Mean temperature of the month 2.15 degrees lower than the average of January for the last thirty-five years.

Stratford, N. H.—January 31.—There was only fourteen and a half inches of snow during the month; one foot deep in the woods now, not quite enough for lumbering purposes.

North Barnstead, N. H.—The month of January was remarkably severe. The snow-storm commencing in the night of the 16th blocked the roads up so as to be impassable, and before travel could be resumed the storm of the 20th came. The daily mail was delayed from the 18th until the 25th:

Barnet, Vermont.—There was much less snow in January than usual, (only ten inches,) and the weather being very cold, many cellars froze that never froze before.

Craftsbury, Vermont.—This has been the coldest January since that of 1857. Snow fell on thirteen days, but in small quantities, five inches on the 26th being the greatest, and the whole amount eighteen inches.

New Bedford, Mass.—The harbor north of the bridge has been frozen over much of the month in the most rapid current, and the part south of the bridge has been unusually encumbered with ice. The outer anchorage has not been much frozen, though there was sometimes much floating ice. The snow-storm of the 17th was the most severe for many years. For about a week the railroad to Boston was obstructed, which had never occurred before for so long a time.

Kingston, Mass.—January 17.—A great storm of wind and snow; the heaviest fall of snow for ten years; fifteen inches.

Milton, Mass.—January 17.—Snow-storm commenced at 3½ o'clock a. m.; wind moderate, northeast. Between 8 and 9 a. m. wind increased greatly, and the snow came with great violence. It raged until 6 p. m. and ceased about 11 p. m., drifting and blocking up all roads and railroads, and bringing everything to a stand for about two days. Depth of snow on level, twenty inches.

North Billerica, Mass.—January 17.—Hardest snow-storm since January 17, 1857, when the "Tedesco" was wrecked at Swampscott. 21st, another great snow-storm; railroads blocked up.

Lunenburg, Mass.—This January was the coldest since January, 1857.

Pomfret, Conn.—There was an unusual amount of low barometer this month; sudden changes with great range. The cold was not extreme, but the mean temperature was 3°.7 below the average of a number of years. A large amount of snow fell, rendering the roads impassable. There has been no storm here like that of the 17th since January 18, 1857.

North Hammond, N. Y.—January has passed without its accustomed thaw; not a day was warm enough during the month to thaw on the eaves of buildings

Garrison's, N. Y.—The mean temperature of the month was lower than that of any January since 1857, when it was 15°. No rain fell during the month, and brooks and springs continue very low.

Depauville, N. Y.—January 10.—Foot-crossing on the river St. Lawrence, but not very safe. 18th, ice on the St. Lawrence safe for teams to cross. 21.—No snow after the 13th till the 20th at 9 p. m., when a storm began and continued till in the night of the 21st. Ten inches of snow fell, and the roads were blocked by the drifts.

Nichols, N. Y.—The Susquehanna river closed so as to cross with teams between the 12th and 15th, for the first time this winter. Snow two and a half feet deep in the woods at the end of the month.

New York, N. Y.—The ground was covered with snow the whole month, and sleighing was good, particularly from the 13th to the last day. Two heavy snow-storms, one in the night from the 16th to the 17th, and the other from the 20th to the 21st, made riding in several streets impossible for many days. The ice in the East river formed a bridge between New York and Brooklyn twice on the 21st, and as many as five thousand persons crossed the river on the ice. The fall of snow during the month amounted to about two and a half feet.

Geneva, N. Y.—Sleighing was good, and the amount of snow greater than it has been in the fore part of winter before in the last fifteen years, the period over which the records of the observer extend.

Rochester, N. Y.—Thirty-two inches of snow fell during the month, and did not melt in the least until about noon of the 31st, when a thaw commenced. Notwithstanding the steady cold, there was no extremely low temperature, the mercury not falling to zero, according to the record of Dr. Mathews, and only once by Dr. Dewey's, which was at 10½ p. m. on the 15th, when it was one degree below zero.

Little Genesee, N. Y.—January 31.—Until this afternoon there has been no thaw during the month, nor a drop of rain. There was one day that the snow on steep south roofs melted a trifle, but not on the roads. The snow this morning in the woods, where not drifted, was about two feet deep.

Skaneateles, N. Y.—January 1.—Lake Skaneateles free of ice. 2d, lake frozen to near Mile Point. 4th, lake frozen, making good skating three-fourths of a mile south. 31.—Snow fell on twenty-three days during the month; depth of all seventy-one inches.

Trenton, N. J.—January 17.—Very heavy snow-storm; about four inches of snow fell, drifting in places eight feet high. It has been about nine years since there was such a snow-storm here.

Dover, N. J.—January 31.—The Morris and Essex canal has been closed by ice since early in December.

Dyberry, Penn.—January 31.—Eighteen inches of snow fell during the month, blockading the roads more than at any time for the past ten years. In the woods it is about two feet deep, but many spots in fields are bare.

Reading, Penn.—January was remarkable for the regularity of its temperature, there being no thaw and no extreme cold. Drifting snows impeded very much the travel; the aggregate amount was about seventeen inches; there was scarcely any rain.

Lewisburg, Penn.—This was the coldest January since 1857.

New Castle, Penn.—The weather has been unusually severe since the 10th of December. About three feet of snow has fallen; roads in many places are impassable as late as the 31st of January, compelling travellers to pass for miles through the fields.

Emmitsburg, Maryland.—Five inches of snow fell on the 13th; one inch and a half on the 15th and 16th; eight inches on the 20th and 21st; and three-quarters of an inch on the 31st.

St. Mary's, Maryland. During the latter part of January the ice on St. Mary's river opposite this place was strong enough to bear crossing on foot, which has not been practicable before since 1856.

Grafton, West Virginia.—Snow fell on fifteen days; aggregate depth twenty-four inches.

Attaway Hill, N. C.—This station is opposite the mouth of Uwharee river, which flows into the Yadkin, and both uniting take the name of Pedee. January 3.—Six inches of snow, hail, and sleet fell to-day. 7th, on mill-ponds ice four inches thick; snow not yet melted, except on southern slopes. 8th.—A quarter of an inch of snow to-day. 15th, snow all disappeared. 17th.—Some drift-ice this morning in the Yadkin. No snow, except on the 3d and 8th; rain on the 20th, and on several other days.

Raleigh, N. C.—On the 29th of December there was a fall of snow, and from that time until the 8th of January there was more or less snow or ice on the ground. On the morning of the 3d of January there was a very heavy sleet, the ice being from one to two inches thick on the limbs of the trees. The only fall of snow during the month was on the 8th, from 10½ a. m. to 1 p. m., but it was very light and soon disappeared.

Gordysville, S. C.—January 1.—Ground covered with snow an inch and a half deep. 3d.—From 7 a. m. to 9 p. m. sleet and snow fell one inch deep; distant thunder in the southeast. 10th, a few flakes of snow. 14th, snow disappeared. 19th, a few flakes of snow at 4 p. m. 20th, at 9 a. m. a shower of snow fell for fifteen minutes; very large flakes. 31st.—There was frost, snow, or ice every day during the month, which is remarkable here. Old men say they do not remember so long a continuance of cold weather. The amount of rain and melted snow was very small.

Atlanta, Georgia.—The only snow mentioned on the register for January was a fall of three inches on the 20th.

Jacksonville, Georgia.—There was a larger amount of cloudy weather than is usual in January in this climate. There was thunder in a few instances. Thin ice was seen on two or three mornings.

Moulton, Alabama.—An inch and a half of snow fell during the night of the 19th. This was the only snow during the month, and there was no rain except a hundredth of an inch on the 12th, and a tenth of an inch on the 25th. At the end of the month buds of rose bushes were beginning to swell, and hyacinths, tulips, jonquils, and snowdrops were beginning to appear above the ground.

Corvint, Louisiana.—"Yesterday morning snow fell to the depth of about five inches." Letter to the Smithsonian, dated January 4.

Springdale, Kentucky.—Twelve and a quarter inches of snow fell on the 19th, 20th, and 21st; there was also a very slight snow on the 9th and on the 16th.

Chilesburg, Kentucky.—Eighteen inches of snow fell during the month, twelve inches of it on the 19th, 20th, and 21st.

Kingston, Ohio.—January 20.—Snow-storm in the night, the heaviest of the season, eight inches in depth.

Urbana, Ohio.—January 31.—The ground has been covered with snow since the 24th of December, and most of the time there was good sleighing. The mean temperature of January was eight and a half degrees below the average of the month for the previous fifteen years; the means of January, 1856 and 1857, were both three and a half degrees lower still.

Toledo, Ohio.—January 19.—Severe snow-storm from the northeast; 25, snow storm with hail and sleet; 26, high winds with severe squalls of snow; 31, commenced thawing early in the afternoon, and by nine o'clock the sleighing on the principal streets was nearly all gone. There was nearly continuous sleighing for forty-five days, and very fine for twelve days.

Kelley's Island, Ohio.—January 20.—Began to snow about 12.30 p. m., wind

east, quite strong; the wind increased and blew a gale till late in the night, snow continued falling till 10 a. m. of the 21st. It drifted badly, in some places along the fences to the depth of three or four feet, but in the open fields and in the forest the mean of some twenty measurements showed six inches, quite compact; it yielded on melting sixty-two-hundredths of an inch of water.

Westerville, Ohio.—At 7 a. m. on the 30th of January the temperature was 17° below zero, the lowest recorded by the observer during his residence here of over five years. The next morning at the same hour the thermometer marked 33 above zero, showing a rise of fifty degrees in twenty-four hours.

Cleveland, Ohio.—The mean temperature of the month is lower than any January since 1857. More snow fell this month than in any January in twelve years.

Steubenville, Ohio.—January 31.—The Ohio river closed about the 20th, since which time it has frozen over so firmly as to permit the crossing of teams and sleighs.

Marion, Ohio.—On the 31st a little rain fell, and during the day and night the snow disappeared largely, leaving the ground bare in many places.

Grand Rapids, Michigan.—Total amount of snow during the month 25.4 inches, twelve inches of which fell on the 25th. Only two-tenths of an inch fell during the storm of the 20th.

Merom, Indiana.—The snow-storm beginning on the 19th and ending on the 21st was very severe, and fully twenty inches of snow fell. No such storm has been known here since the winter of 1831-'32. The only snow after this sufficient to measure was half an inch on the 28th.

Vevay, Indiana.—A snow-storm of unusual severity swept over this part of the country from 7 p. m. of the 19th to 11 a. m. on the 21st, with a strong wind from the northeast, which changed to southwest about nine hours before the snow ceased. The snow measured in a sheltered place fourteen inches, and drifted to a depth of four feet.

Muncie, Indiana.—Temperature on the 30th at 7 a. m. eleven degrees below zero; next morning at same hour thirty-eight degrees above, a rise of forty-nine degrees in twenty-four hours.

Rensselaer, Indiana.—January 20.—Violent snow-storm, with high wind from northeast throughout the entire day. It is difficult to obtain correct measurement of the depth of the snow, on account of the drifting, but it may be safely put down at twelve inches.

Sandwich, Illinois.—Very little snow fell in the storm of the 19th. The great snow-storm of the season began at 9.30 p. m. of the 24th, with wind from the east, sleeting first and then snowing; depth eight inches.

Mount Sterling, Illinois.—January 24.—About 7 p. m. it commenced sleeting, and must have continued most of the night. Next morning every limb and twig bore a casing of ice from a quarter to half an inch in thickness, which remained for three successive days.

Loami, Illinois.—January 19.—A snow-storm set in from the northeast at 11 a. m. and continued for twenty-two hours. The wind blew a fresh breeze from that point all that time, but not sufficiently strong to obstruct railroads or common roads with drift. Fifteen inches of snow fell during the storm, a greater depth than has fallen at one time for twelve years.

Tiskilwa, Illinois.—January 31.—Thawed to-day, so as to soften and waste the snow some in the roads, but not much elsewhere.

Riley, Illinois.—From the 7th of December to the last day of January there was but one or two days upon which it thawed at all. Temperature of the month 7.39 degrees below the mean of twelve years. There has been less drift than usual; the trains on the railroad have been on time with one exception of three hours.

St. Louis, Missouri.—Ten inches of snow fell during the storm of the 19th to 21st.

Harrisonville, Missouri.—Two and a quarter inches of snow in the night of the 19th; none on the 20th or 21st.

Union, Missouri.—Eleven inches of snow fell on the 19th and 20th; only twice in twenty years has there been so deep a snow here. 30th and 31st, rapid thaw.

Baraboo, Wisconsin.—No snow after the 14th till the 25th, when there was a fall of twelve and a half inches. The observer remarks that the month was noted for "a lack of the high winds and snow squalls usual to this latitude."

Plymouth, Wisconsin.—Some flakes of snow on the 19th and 20th; seventeen inches on the 25th.

St. Paul, Minnesota.—The principal fall of snow was on the 13th and 14th; eight inches and four-tenths. Four-tenths of an inch fell on 18th and 19th, and two inches and nine-tenths on the 24th and 25th.

Minneapolis, Minnesota.—January 31.—Ice in the Mississippi river twenty-seven inches thick.

Monticello, Iowa.—Twenty inches of snow fell during January; two inches on the 9th, two on the 12th, two and a half on the 14th, and thirteen and a half on the 24th and 25th.

Waterloo, Iowa.—The only snow of importance during January was from 4 p. m. of the 24th to 4 p. m. the next day; depth of snow about twelve inches.

Iowa City, Iowa.—A little over twelve inches of snow fell from 7 p. m. on the 24th to the same hour next day. Less than half an inch fell during all the rest of the month.

Leavenworth, Kansas.—Nine and twenty-seven-hundredths inches of snow fell during the month; of this 3.65 inches was on the 13th, 2.75 inches on the 24th, and 2.75 inches on the 29th.

Atchison, Kansas.—Depth of snow in January, 22.6 inches, of which 12.3 inches fell on the 24th and 25th.

Council Grove, Kansas.—Only seven inches of snow during the month; two inches on the 4th, and five inches on the 24th. A few flakes on the 13th and 20th.

ERRATUM.—In January number, foot of page 47, for "fifty-four and a half inches" read "six and a half inches."

MONTHLY REPORT

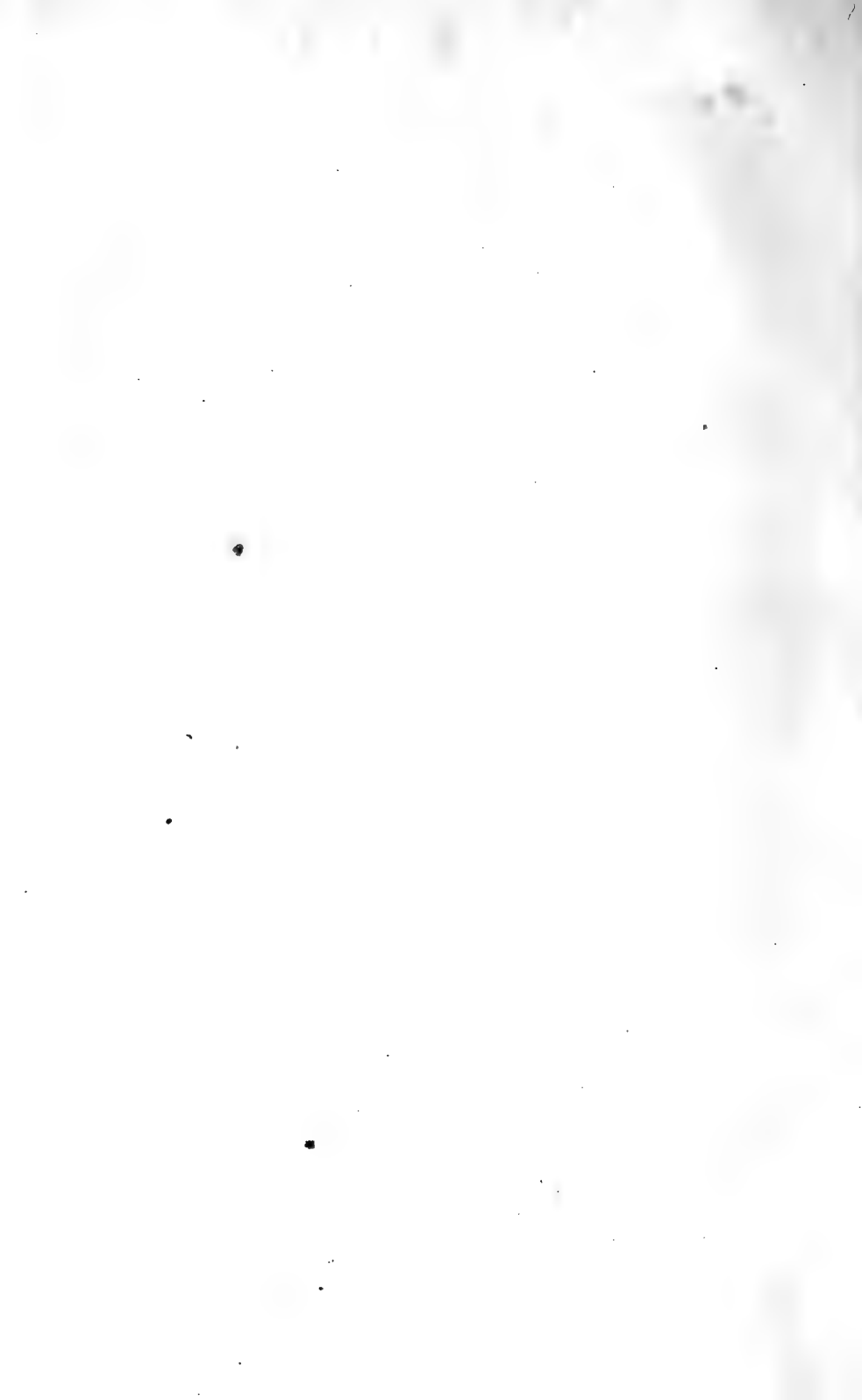
OF

THE AGRICULTURAL DEPARTMENT.

M A R C H,

1867.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1867.



MONTHLY REPORT.

WASHINGTON, D. C., *March*, 1867.

The stock tables in the present number make an exhibit of the condition of the farm stock of the country at the beginning of the present year. The reduction through the waste of war was very heavy in the south, and in almost every State in the country the diminution was more or less marked, except in the item of sheep. Indications of increased attention to the breeding of farm animals are now strong. The fact is daily becoming more apparent that stock-growing is a more profitable branch of agriculture than grain production, especially in localities distant from market. It is plain that markets must either be brought to these remote agricultural sections, or farm products must be put in concentrated form, requiring light expenses for transportation in proportion to market value.

The indications of a wheat crop are generally favorable. The snows of the past winter, and the general uniformity of cold weather, prevented winter-killing in a great degree. The spring has been late, with less of alternate freezing and thawing than usual; and the young shoots, as a result, look green and vigorous.

An interesting statement, from extensive original data recently obtained, concerning the losses of wool growers from depredations of dogs, will surprise those who are unaware of the extent of the mischief, and will enforce strongly the propriety of a national tax on every individual of the canine race in the several States. Three dollars, the English rate, would not be too high a tax.

A report of the committee appointed to test California wines sent to the department, with analyses of soils, a list of the wines, and other details, will also be found in this number.

European statistics, condensed from original translations of recent reports and other publications, will be found useful for reference.

ISAAC NEWTON, *Commissioner*.

THE DOG NUISANCE.

There is a flavor of outlawry in current arguments against taxing or restraining dogs. Their friends have an Ishmaelitish way of dealing with the question. If the mongrel tribes are declared nuisances, to be abated *pro bono publico*, they are claimed as property and placed upon an equality with a three thousand dollar merino ram. Propose a tax upon such a valuation, or any other, and their assumed value becomes instantly intangible.

The question is a very plain one, requiring no profundity of jurisprudence in its solution. A dog is property just as a tame bear or a wolf is property. A lapdog or a parrot may be perfectly useless in the appreciation of most people, and yet be bought and sold and held as property. If tame bears or wolves or any animal whatsoever shall become numerous and troublesome and injurious to man, without known or responsible owners, unchained and roaming at will, there is no more question as to restraining and outlawing such animals than with reference to the most pronounced nuisance ever proscribed by law. A man may claim "I have as good a right to raise dogs as any man has to raise sheep." So he has; but he has no right to allow them to leave his premises and certainly no right to suffer them to prey upon his neighbor's sheep, and the law-making public has an undoubted right to tax, restrict, or prohibit such production if the public good requires it.

The principle of the right of taxation is unquestioned. The State legislatures have nearly all recognized it, and congressmen acknowledge it, yet there is a strange hesitation and timidity in national and State councils for which it is difficult to find a sound reason. The only one assigned is not a creditable one, and hence it is usually suppressed, viz: universal suffrage gives to the dog owner, though he may be as unreasoning as the barking brute in question, a vote. It is to be hoped, whatever petty local legislators may do, that honorable members of national councils may act with greater wisdom and independence.

In European countries the taxation of dogs, not for revenue merely, but as a police measure for the regulation and repression of a nuisance, and for the necessary protection of an industry otherwise at the mercy of a selfish and reckless class, is a practical fact. In Great Britain a tax of twelve shillings (three dollars) each has long been imposed, and a substantial income is derived from this source. In Bavaria a notable reduction in number of dogs is the result of taxation. In Baden a revenue of 100,000 thalers per annum is derived from the tax on dogs. France has a dog tax, as also Prussia. In Portugal there is no tax but a restriction upon the increase of the species. In Lisbon all having no masters are destroyed without mercy.

At the international congress of veterinary surgeons in Vienna in 1865 the subject was discussed, interesting statistics of hydrophobia were presented, and a resolution was adopted favoring taxation, and recommending that the tax be as high as possible.

Few are aware of the immense losses inflicted upon the productive industry of the country by these pests. Every local attempt to ascertain these damages reveals astounding facts. Returns have been received in this division of the department of agriculture within a few weeks from 539 counties, in every State in the Union except the Pacific States, showing an aggregated estimate of 130,000 sheep killed by dogs in about one-fourth of the whole number of counties. On this basis the total number killed would be more than half a million yearly. Then the number injured, assuming as a basis the proportion reported from actual count in a series of years in Ohio, would be more than three hundred thousand more; *more than eight hundred thousand sheep killed or mutilated yearly, and a two per cent. tax levied upon the total investment in sheep, a loss equal to one-third of the gross income from six per cent. stocks.*

Are these assumptions warranted by facts? Let the reader examine data obtained at different times from different sources under different auspices. In Missouri, the present spring, the aggregate of estimates of sheep killed in thirty-three counties is 8,267; in 1866, in answer to a similar inquiry, returns were received from thirty counties which gave a total of 7,911. Boone county, Kentucky, at the same time furnished an estimate of 3,000 killed; and from counties in Michigan, Iowa, and Pennsylvania, estimates of 1,000 or more in each were received. The southern and frontier States show greater losses in proportion to extent of flocks than more central regions. The reason is plain—there are more dogs under fewer safeguards. In many of these localities wool-growing is attempted and abandoned for the sole reason of these unchecked ravages.

By actual enumeration, without counting those not reported and paid for under existing law, Ohio reported in five years 203,824 killed, averaging 40,764 per year, more than one per cent. of her flocks, while the injured were about two-thirds of one per cent. With a very small allowance for a higher percentage of loss, where it is shown to exist, an estimate is rounded out upon this Ohio basis of eight hundred thousand sheep killed and injured among the forty millions of the United States.

The loss in 1862, in New York, as estimated by the secretary of the State Agricultural Society, was 50,000 sheep, valued at \$175,000. This involves a higher average than the Ohio figures.

The following table gives the aggregate result of recent returns, not including the damage done to sheep maimed or otherwise injured:

Sheep killed by dogs in 1866 in certain counties of the several States, as estimated by correspondents of the Statistical Division.

States.	No. of counties reported.	No. of sheep killed.	States.	No. of counties reported.	No. of sheep killed.
Maine	8	1,945	Texas	16	7,360
New Hampshire.....	6	854	Arkansas	9	770
Vermont	5	495	Tennessee.....	25	12,478
Massachusetts	5	713	West Virginia	15	1,475
Rhode Island.....	2	300	Kentucky	26	8,292
Connecticut	3	380	Missouri	33	8,267
New York	25	3,645	Illinois	60	16,167
New Jersey	6	409	Indiana	33	7,189
Pennsylvania	28	6,155	Ohio	31	13,532
Delaware	2	550	Michigan	18	4,058
Maryland	5	1,154	Wisconsin	26	2,237
Virginia	17	4,272	Minnesota	8	518
North Carolina	24	8,582	Iowa	35	4,660
South Carolina	7	1,240	Kansas	13	2,212
Georgia	18	3,077	Nebraska	3	125
Florida	2	55	Utah	2	14
Alabama	11	2,172			
Mississippi	9	4,600	Total	539	130,427
Louisiana	3	475			

If these returns are indicative of the actual extent of the injury—and they are evidently lower than the reality, because based upon partial and imperfect local official returns—the loss to the country yearly is not less than half a million sheep. Three years ago their value was estimated at five dollars each. If we reduce the estimate to suit the diminution of values to four dollars each, the direct loss on account of sheep killed amounts to two millions of dollars yearly.

The official statement for Ohio, in 1866, was as follows: Killed, 31,118, valued at \$112,367; injured, 21,681, valued at \$41,729.

In view of the official and unofficial exhibits of different States and localities, and the direct returns to this department, from all sections of the country, for two consecutive years, the direct losses of 1866 may be stated as follows:

500,000 sheep killed.....	\$2, 000, 000
300,000 sheep injured.....	600, 000
Total.....	<u>2, 600, 000</u>

The cost of keeping dogs, most of them utterly worthless, when calculated for the whole country, assumes startling proportions. The estimate made in the report of 1863, of \$10 per annum, or less than one cent per meal, cannot be considered extravagant, "in view of price paid for boarding dogs, the cost of keeping large numbers of them in cities, and their exclusive consumption of meat." As to their numbers, it is believed by many that they will average one to each family, or seven millions in the United States. In cities and towns that average would not be reached, while many a pack of hounds and assemblage of curs of low degree might be found in the ownership of single families. Possibly seven millions may be too large. Ohio, with half a million families, is supposed by many to have half a million dogs, although little more than one-third of that number are found on the assessors' books. It may be assumed, in view of all the data obtained, as a low estimate, that there are five millions of dogs in the United States, and that their subsistence involves an *expenditure of fifty millions of dollars*.

The following extracts from correspondence will further illustrate these views of a subject which has become of national importance, and should secure the prompt action of Congress in favor of a uniform tax, in all the States and Territories, say of two or three dollars on each dog without regard to breed, sex, or use:

A correspondent in Sullivan, Illinois, writes: "Your suggestion as to taxing dogs I hope will be carried out by Congress. Two years ago I lost a valuable ram, that I obtained from Vermont at considerable cost and trouble, by a thieving sheep-killing dog. It is a poor solace to have the privilege of killing a dog after he has destroyed your property. I have written to Senator Trumbull on this matter, and suggested a tax as follows: Dogs unaltered, \$5; dogs altered, \$2; sluts, \$5. A general tax of this kind will greatly lessen the number of worthless dogs in the country."

Somerville, Tenn.—Sheep have decreased fully one-half since last February, having been sold off for market, and killed by dogs and irresponsible parties for food. Every negro, now that he is free, must own two or three dogs. I can safely assert that fully one-half are killed by dogs and the other half eaten up.

Wayne county, N. C.—The United States forces, while in occupation of this county, very nearly exterminated the stock of dogs, and as a consequence sheep have suffered but little from their depredations. This State did have a tax upon dogs, but it appears to have become a dead letter.

Baltimore county, Md.—It is difficult to answer with accuracy the question as to the number of sheep killed by dogs. The county is large, and I know the loss is considerable. Admitting a loss of only twenty in each election district, would amount to 260 for the county; we often hear of one or two farmers losing this number (twenty) in one night, and I am quite sure my estimate is not too high.

Beaufort, N. C.—I am truly glad to see that the subject of dogs has at last been taken up, as they are undoubtedly the greatest nuisance in our land. Sheep-raising here would be profitable were it not for the ravages of the dogs. But

as it is, men, who are not able to buy their families bread, as a general thing, keep from two to four worthless dogs, which at night flock together and attack hogs, calves, or sheep. I have known as high as forty head of sheep to be killed by dogs in one night. Why cannot dogs be declared a nuisance, and taxed so high that the owners will be compelled to destroy them?

Essex county, N. J.—In the above territory, comprising about one-tenth of the county, and the portion chiefly devoted to agriculture, there were formerly kept about one thousand sheep, but owing to the great losses by dogs the raising of them has been almost entirely abandoned.

Pontotoc county, Miss.—The loss of sheep by dogs is variously estimated from 500 to 2,000, but an average of 900 I think about correct. There is one fact with regard to sheep-killing dogs worthy of mention: a full-blooded hound will not kill a sheep; he may run after them, but will not kill them, while the cur or cross-bred hound will kill sheep whenever he catches them.

Putnam county, Mo.—I cheerfully respond to your inquiry in relation to the ravages of dogs, as it is a subject of great importance to the farming community. I have taken no little pains to inform myself upon the subject, very few, if any, being aware of the enormous damage done by these animals through the country in various ways. I presume that \$100,000 would not more than meet the bill for our State within the past year for damage done to sheep and other stock, to say nothing about hydrophobia and other damage they cause. Farmers generally tell you that it costs nothing to keep a dog, but the truth is it costs more to keep a dog than a hog, the dog being a flesh-eating animal, and flesh he will get by fair or foul means.

Miami county, Ohio.—To answer your question about killing sheep, I have sent for report from the auditor of the State, and find that during the year 1865 the number of sheep killed by dogs in the county was 452; wounded, 162. Value of sheep killed, \$1,071; damage to wounded, \$162; total, \$1,233. Number of dogs, 2,138. Sheep killed in the State, 31,603; wounded, 20,030; total killed and wounded in the State, 51,733. Stocks are increasing, and damage from dogs in proportion.

St. Francis county, Mo.—I think it safe to say that at least fifteen per cent. of our sheep are destroyed by dogs, and until there be some law devised to reduce the number of dogs in our county, sheep-raising cannot be made profitable, nor will it be followed to any great extent, although there is no branch of business better suited to this locality.

CALIFORNIA WINES.

A variety of wines, received from several parties in California, attracted much attention in the museum of the Department of Agriculture during the past winter. Deeming the progress in wine manufacture upon the Pacific coast in the highest degree encouraging and important, a number of congressmen and other connoisseurs were invited to test their quality, and a committee was appointed (Hon. G. V. Lawrence, of Pennsylvania, chairman) to report, with the following result:

REPORT OF THE COMMITTEE.

WASHINGTON CITY, *March 4, 1867.*

Hon. ISAAC NEWTON, *Commissioner of Agriculture:*

SIR: The committee appointed by you at the request of the California delegation received from you the following communications:

No. 1.

DEPARTMENT OF AGRICULTURE,

Washington, D. C., February 16, 1867.

GENTLEMEN OF THE COMMITTEE: I have the honor to present for your examination various samples of native California wines and brandies, as per memoranda hereto annexed, forwarded to this department by the manufacturers, through the efforts of Horace D. Dunn, esq., of San Francisco, for the purpose of having them examined by a committee of three or more judges, to be appointed by the California congressional delegation, and a detailed written report made of the result for publication in the monthly report of this department, as well as the leading newspapers of the east.

I also present the report of the chemist of the department, giving the analyses of various samples of soils from some of the vineyards upon which the grapes were grown.

The proprietors of these samples of wines look with much interest for the report of the result of this examination, and I therefore hope, gentlemen, that you will discharge the duties of this very important trust with the greatest care.

Respectfully,

ISAAC NEWTON, *Commissioner.*

No. 2.

A memorandum of wines and brandies of California production presented for examination and report.

24 bottles sparkling Sonoma wine, from the Buena Vista Vinicultural Society, San Francisco, California.

2 bottles sherry wine,
2 bottles Burgundy wine, } from L. F. Jarvis, Columbia, California.
2 bottles cabinet wine, }

2 bottles sherry wine,
2 bottles port wine, } from M. Keller, Rising Sun and Los Angeles, California.
2 bottles Madeira wine, }
2 bottles Angelica wine, }
2 bottles white wine, }
2 bottles wine bitters, }

7 bottles white wine, } from Jno. Kron, Petaluma, California.
6 bottles claret wine, }

4 bottles Mission grape wine, from O. W. Craig, Sonoma, California.

2 bottles Griswold's Hermitage wine, vintage of 1864.

2 bottles Griswold's Hermitage wine, vintage of 1865.

1 bottle California white wine, } from Koehler and Frohling, San Francisco.
1 bottle California port wine, }

1 bottle mountain wine, vintage 1864, } Schell and Krause, Knight's Ferry
1 bottle mountain wine, vintage 1865, } California.

1 bottle California wine from Mr. Reily, San Joaquin, California.

2 bottles Verdelho wine,
2 bottles white Reisling wine,
2 bottles Muscat wine,
1 bottle Beni Carlo wine,
2 bottles red Traminer wine, } from B. N. Bugby, Natoma vineyards, Cal'a.
1 bottle Fiher Zagos wine, }
2 bottles white Malaga wine, }
2 bottles white Pineaux wine, }
2 bottles black Zinfindal wine, }

2 bottles cognac brandy, from B. N. Bugby, Natoma vineyards, California.
 2 bottles brandy made from littings, } from N. Carrigan, Sonoma, California.
 2 bottles brandy made from wine, }
 6 bottles port wine, }
 6 bottles Angelica wine, }
 6 bottles Muscat wine, } from Perkins, Stern & Co, New York, California
 6 bottles hock wine, } wines and brandy donated by Koehler & Frohling.
 6 bottles claret wine, }
 2 bottles brandy, }
 1 bottle brandy, Mrs. Yount.
 bottle wine, Mrs. Yount.

No. 3

DEPARTMENT OF AGRICULTURE,

Washington, D. C., December 11, 1866.

SIR: I herewith enclose copies of analyses of soils forwarded by you to this laboratory, October 10, 1866.

The soils forwarded were four in number. A sample of subsoil was forwarded by Messrs. Griswold, but it being of similar character with the surface, an analysis of it was not made. The analyses have been so conducted as to give not only the present constitution of the soil, showing its available materials, but also to show what materials will naturally be contributed by the decay of the soil within a limited period, say twelve or eighteen months. This information is conveyed in the second column of the analyses forwarded; if the whole numbers be assumed to be pounds weight, then by multiplying by fifty, the amount on an acre is approximately obtained.

It may be remarked of these soils, that while they all appear favorable to the growth of the vine, they are of very different texture and composition. Thus the soil of Mr. Perley is a sandy loam of a dark hue, the coloring of which is due to the contact of its vegetable matter with the iron of the soil, and which, were it intended for general cultivation, would certainly be benefited by liming, as it is remarkably deficient in lime. On the other hand, the soil of Griswold & Son is a heavy red soil, ferruginous and aluminous, derived from the rock or subsoil immediately below it. The magnesia element is in the same proportion with Mr. Perley's soil, but the lime element is nearly eight times as abundant. Again, the soil of Mr. Bugby is a soil of indifferent quality as regards constitution, and not capable of being benefited much by the slate rock on which it rests, while the soil of Messrs. Schell and Krause, also an indifferent soil, yet rests on a material which, by weathering, is capable of enriching the ground in lime, magnesia, and phosphoric acid, as indicated in the second table. These observations are drawn out by a comparison of the soils, and go to prove that there are many other elements of fertility in land than the mere mineral constitution of the soil; these elements are climate, aspect of land, water moving through the soil, (irrigation,) and good drainage.

I remain, sir, very respectfully,

THOMAS ANTISELL, *Chemist.*

Hon. ISAAC NEWTON, *Commissioner.*

No. 4.

ANALYSES OF SOILS, BY THOMAS ANTISELL, M. D., CHEMIST.

Analysis of a soil presented by Messrs. Schell and Krause, Knight's Ferry, Stanislaus county, California.

Moisture.....	14.00
Organic matter.....	33.50
Earthy matters.....	952.50
Total.....	1000.00

		Derivable from the soil by weathering.
Silica and silicates of alumina, iron, lime, and magnesia.	917.08	47.00
Alumina and peroxide of iron.....	10.00	30.50
Lime as carbonate.....	1.17	4.687
Magnesia, carbonate,.....	.25	1.140
Soluble salts, <i>i. e.</i> phosphate of magnesia, sulphate of lime, organic salts of iron.....	24.00	
Total.....	952.50	

The silicates of lime and magnesia prevail in this soil.

The dark red subsoil appears to be mixed with the surface.

Memorandum accompanying the soil.—"Vineyard on a flat—flat mostly formed of debris washed down by the creek from the Table mountains (volcanic.) It is surrounded by hills formed by lava composed of white chalk, red and yellow ochre, &c., iron rock, sandstone, &c. The flat seems to rest on a decaying iron ledge. Soil varies much; sample hardly a fair one."

Analysis of a soil presented by J. W. Griswold & Sons, Copperopolis, Calaveras county, Cal. (But one specimen received.)

Moisture.....	20.00
Organic matter.....	42.00
Earthy matters.....	938.00
Total.....	1000.00

		Derivable from the soil by weathering.
Silica and silicates of alumina, iron, lime and magnesia.	839.055	127.00
Alumina and peroxide of iron.....	81.770	74.75
Lime.....	3.175	8.687
Magnesia.....	.500	1.937
Soluble salts, as sulphate of lime, phosphate of iron, and magnesia, traces of common salt.....	13.500	
Total.....	9380.00	

Memorandum accompanying soil.—Soil an ordinary red, such as is usual in mines, &c.; a kind of granite ledge, instead of slate.

Analysis of a soil from B. N. Bugby, esq., Folsom, Cal.

Moisture.....	9.20
Organic matter.....	30.00
Earthy matters.....	960.80
Total.....	1000.00

		Derivable from the soil by weathering.
Silica and silicates of alumina, lime, iron and magnesia.	894.50	140.00
Alumina and peroxide of iron.....	49.50	34.25
Lime.....	2.37	2.87
Magnesia.....	.21	1.87
Soluble salts, <i>i. e.</i> in chief, sulphates of lime and mag- nesia.....	14.22	
Total	960.80	

(The silicates are chiefly those of alumina and lime)

Memorandum accompanying soil.—The soil is very shallow; the bed rock of slate is of a slaty appearance, and called here clay slate, of a bluish color, and stands vertically; crops out frequently in places. Depth of soil, three or four feet to nothing. That variety of it which is most abundant is sent. Also, samples of soil from different parts of vineyard.

Analysis of a soil from F. A. Perley, Woodbridge, Cal.

Moisture	20.80
Organic matter	17.00
Earthy matters	962.20
Total	1000.00

		Derivable from the soil by weathering.
Silica and silicates of alumina, iron, lime, and magnesia.	912.50	110.00
Alumina and peroxide of iron	38.70	73.50
Lime.....	.40	12.68
Magnesia .....	.50	15.93
Soluble salts, as sulphate of lime, phosphate of mag- nesia, organic salts of iron.....	10.10	
Total	962.20	

(The silicates are principally silicates of iron, alumina, and magnesia.)

REPORT.

The committee are of the opinion that many of the samples submitted did not fairly represent the vineyards from which they were obtained, either because of very defective corking or because of the wine being bottled too soon after fermentation, or from other defective handling. Whatever may be the cause, it seemed unjust to pronounce any opinion upon the merits of wines which were plainly unfit for drinking. For this reason the committee do not express any other opinion (than just remarked) upon a great majority of the samples submitted to them.

Of the white acid wines the committee selected only four which they deemed worthy of special notice.

1. California hock (Perkins & Stern.) 1863.
2. Sonoma hock " 1862.
3. Folsom hock " 1862.
4. White wine (Matt. Keller.)

Of these four varieties they gave the preference to Keller's white wine (No. 4,) while the hocks were of nearly equal quality, the Folsom being preferred.

Of the sweet wines, the red Traminer (Bugby 1863,) and the Verdelho (Bugby

1865,) and the Muscatel (Perkins, Stern & Co.,) are worthy of mention rather as giving promise for the future, than as realizing the proper qualities of a sweet wine. Of all the sweet wines submitted to their inspection, they awarded the preference to the Angelica (Matt. Keller,) which seemed most advanced in quality.

The port (Perkins, Stern & Co., and Koehler & Frohling) was a good young wine, destined yet to be a popular table wine.

The only sparkling wine offered was the Sonoma; this was a really pleasant table wine, superior to much that is sold as imported champagne.

The wine bitters (Keller) is commended as a superior substitute for the alcoholic compounds now sold to the public.

It is due to the various producers to say that the committee have elsewhere found better wines, or wines in better condition, from the same vineyards, and of the same brands.

They believe that two defects exist affecting the merchantable character of California wines; one is careless corkage, the corks themselves, in many cases, being of very poor quality. The other is defective handling. They respectfully call the attention of producers to these two points. They entertain no doubt of the ultimate success of this interesting branch of our industry. The soil and climate of California, having all the necessary varieties for successful viniculture, should insure a production that will supersede the great majority of imported wines.

The introduction of native wines into general use will, it is believed, promote habits of temperance and good health, by discouraging the taste for inflaming alcoholic drinks, and substituting the use of simple non-intoxicating beverages that promote digestion, without inflaming the blood, or destroying the natural action of the vital organs.

Respectfully submitted:

G. V. LAWRENCE, *Chairman.*

FACTS IN AGRICULTURAL CHEMISTRY.

The following tabular statements of results of agricultural and chemical investigations are presented in the belief that they may prove useful to the American farmer as matters of reference and comparison. They have been collected with great care by Mr. Emil Wolff, doctor of analytical and agricultural chemistry at the agricultural academy of Hohenheim, from the results of the several experiments carried out at the various experimental stations (model agricultural and experimental farms) in Germany, and recently published by him in Berlin:

Value of manures, established by averaging the combined results of experimental stations, according to Emil Wolff, "Reports on Agriculture, 1866."

Kinds of manure.	Percentage of—				Pounds required per acre.	Percent. absorbed in vegetation.			Equivalent for 100 parts of stable manure.
	Water.	Nitrogen.	Phosphoric acid.	Potassa.		1st year.	2d year.	3d year.	
Stable manure.....	75	0.4	0.25	1.0	24,000	33	34	33	100
Horse-dung, fresh.....	75	0.7	0.3	2.0	15,000	50	35	15	150
Sheep-dung, fresh.....	67	0.9	0.4	2.0	10,000	45	35	20	170
Hog's-dung, fresh.....	85	0.3	0.2	0.7	30,000	30	35	35	75
Cow's-dung, fresh.....	80	0.35	0.2	0.9	27,000	25	40	35	90
Human, solid.....	74	1.0	1.2	1.0	4,500	75	15	10	300
liquid.....	96	1.0	0.2	0.5	3,000	100	.....	.....	300
Best poudrette.....	15	3.0	4.0	3.0	1,100	65	25	10	1,000
condensed by fresh lime.....	15	10.0	12.0	8.0	300	65	25	10	5,000
Fowl's-dung, dry.....	10	8.0	6.0	5.0	450	70	20	10	2,400
fresh.....	62	3.0	2.0	2.0	1,500	75	15	10	800
Liquid blood.....	80	3.2	0.5	1.0	900	100	.....	.....	1,000
Prepared blood, manufactured.....	15	10.0	8.0	5.0	300	80	20	.....	4,500
Peruvian guano.....	12	12.5	10.0	3.0	230	60	25	15	6,500
Oil cake.....	14	4.5	2.0	1.5	750	65	25	10	1,850
Bone dust.....	12	5.0	23.0	.....	200	30	35	35	3,250
Steamed bone dust.....	12	4.5	24.0	.....	360	50	30	20	4,000
Dissolved bones.....	12	3.0	17.0	.....	240	75	15	10	4,000
Chili saltpetre.....	2	16.0	.....	.....	75	100	.....	.....	8,000
Sulphate of ammonia.....	3	21.0	.....	.....	65	100	.....	.....	9,000

Amount of dung in proportion of food consumed.

It has been established by accurate observations that about one-half (by weight) of all the dry matter (absolutely free from water) consumed as food is deposited in the form of dung of animals. For example:

Name of animals.	Kind of food.	Percentage of dry food transferred into dung.
Horse.....	Oats and hay.....	46 per cent.
Milch cow.....	Hay, potatoes, and roots, &c.....	47 per cent.
Working ox.....	Hay, straw, and beets, &c.....	50 per cent.
Fattening ox.....	Hay, roots, cake, offal, &c.....	53 per cent.
Sheep.....	Hay and offal.....	62 per cent.

The medium will be 51.6 per cent., but considering that the manure of horned cattle always preponderates, 50 per cent. will be an average of dry matter (consumed) transformed into manure by domestic animals.

Medium sized domestic animals, well fed, will produce per annum:

Horse, — what is lost while at work, 7 loads, at 25 chr. = 175 chr.

Cattle, fed in stables, 8 to 10 loads, at 25 chr. = 200 to 250 chr.

Sheep, from October to May, 3-5 of a load, at 25 chr. = 15 chr.

Hog, fatted, 1 to 1½ load, at 25 chr. = 25 to 37 chr.

REMARK.—Stable manure resting until heated loses 20 per cent., and is reduced gradually at last to 50 per cent. of its original value.

Percentage of mineral substances.

Products.	Water.	Am't of minerals.	Potassa.	Soda.	Magnesia.	Lime.	Phosphoric acid.	Silica.
	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>
Wheat, grains.....	14.4	1.80	0.533	0.082	0.212	0.063	0.859	0.022
Rye, grains.....	14.3	1.93	0.455	0.194	0.209	0.096	0.913	0.028
Oats, grains.....	14.3	2.61	0.376	0.069	0.203	0.089	0.476	1.297
Buckwheat, grains.....	14.0	0.92	0.168	0.099	0.114	0.041	0.448	0.006
Barley, grains.....	14.3	2.22	0.403	0.113	0.195	0.056	0.793	0.581
Hay, from meadows.....	14.3	8.37	1.553	0.675	0.349	0.813	0.900	2.882
clover.....	16.7	6.61	1.043	0.301	0.680	2.141	0.602	0.236
Peas, grains.....	14.3	2.45	1.012	0.151	0.190	0.139	0.809	0.021
Beans, grains, (vicia faba).....	14.5	3.68	1.160	0.490	0.311	0.187	1.369	0.032
Vetches, grains, (vicia saliva).....	14.3	2.11	0.584	0.292	0.140	0.135	0.714	0.032
Lentil.....	14.3	1.77	0.493	0.175	0.035	0.090	0.515	0.019
Oilseed, (rape).....	11.0	3.95	0.766	0.070	0.458	0.721	1.531	0.058
cake.....	15.0	5.59	1.360	.....	0.825	0.608	2.060	0.487
Linseed, flax grains.....	12.5	3.90	1.195	0.067	0.388	0.500	1.572	0.041
cake.....	11.5	7.16	1.445	0.092	0.901	0.538	2.187	.....
Flax-straw.....	14.0	3.30	0.732	0.160	0.276	0.466	0.330	1.671
Hemp seed.....	12.2	4.81	0.967	0.010	0.271	1.129	1.745	0.569
straw.....	14.0	3.96	0.696	0.120	0.366	1.653	0.434	0.308
Poppy seed.....	14.7	7.00	0.953	0.072	0.661	2.475	2.169	0.227
cake.....	10.0	8.40	0.070	0.375	0.364	2.359	3.176	0.407
Beets, (beta vulgaris).....	87.4	1.15	0.336	0.299	0.627	0.024	0.062	0.023
sugar, (beta cicla).....	80.2	0.75	0.364	0.061	0.068	0.048	0.114	0.025
Turnips.....	92.0	0.60	0.223	0.060	0.014	0.061	0.067	0.010
White cabbage.....	89.0	1.13	0.504	0.042	0.040	0.156	0.165	0.012
Potatoes.....	75.0	1.07	0.704	0.005	0.042	0.017	0.173	0.011
Refuse matter in distilling, &c.....	94.8	0.60	0.231	0.040	0.044	0.027	0.101	0.017
Barley flour.....	11.3	4.99	0.943	0.070	0.382	0.123	1.441	0.998
Sugar-beet cake.....	69.5	0.90	0.407	0.022	0.070	0.186	0.093	0.056
Beer husks, moist.....	75.9	1.21	0.051	0.010	0.122	0.140	0.459	0.390
air dried.....	7.28	4.47	1.187	0.036	0.451	0.519	1.697	1.441
Milk.....	87.0	0.70	0.176	0.069	0.024	0.164	0.197	.....
Calf, weighed alive.....	.....	3.80	0.243	0.056	0.047	1.625	1.376	0.006
Ox, weighed alive.....	.....	4.66	0.172	0.140	0.062	2.083	1.856	0.013
Sheep, weighed alive.....	.....	3.17	0.146	0.144	0.043	1.318	1.229	0.019
Hog, weighed alive.....	.....	1.65	0.133	0.016	0.031	0.704	0.680	.....
Wool.....	.....	2.35	.....	0.560	.....	0.313	0.266	0.195
Eggs, 8 to 10 = 1 pound.....	.....	10.70	0.152	0.183	0.019	5.561	0.419	0.004
Bones, dust.....	.....	64.00	.....	.....	0.691	33.730	26.050	.....
Superphosphate.....	.....	.....	2.310	.....	1.050	24.200	18.830	.....
Peruvian guano.....	.....	.....	3.720	.....	1.920	11.420	10.540	.....
Baker guano.....	.....	.....	0.171	0.676	8.207	43.380	40.330	.....
Abraum salt, Stassfurt.....	.....	.....	9.230	17.590	11.570	1.120	.....	.....
Beach tree ashes.....	.....	.....	12.330	2.120	10.240	41.260	7.060	5.280
Oak tree ashes.....	.....	.....	8.630	2.790	3.990	60.360	4.820	0.940
White pine tree ashes.....	.....	.....	8.250	12.410	3.590	45.900	3.020	6.980
Yellow pine tree ashes.....	.....	.....	12.630	1.540	8.850	45.290	7.220	3.410
Dung of the yard raked together with straw and offal.....	72.6	5.34	0.698	0.129	0.168	1.062	0.256	1.204
Cattle salts.....	.....	.....	.....	53.000	.....	.....	.....	.....

Value of food.

Kinds.	PERCENTAGE OF—									
	Water.	Organic matter.	Ashes.	Nutrient contain- ing nitrogen.	Nutrient not con- taining nitrogen.	Woody fibre.	Total nutriment.	Fat.	Phosphoric acid.	Lime.
I. Hay.										
Meadow.....	14.3	79.5	6.2	8.2	41.3	30.0	49.5	2.0	0.53	0.97
Aftermath.....	14.3	79.2	6.5	9.5	45.7	24.0	55.2	2.4	0.63	1.05
Red clover in flower.....	16.7	77.7	6.2	19.4	29.3	35.8	43.3	3.2	0.45	1.90
Red clover for seed.....	16.7	77.7	5.6	9.4	20.3	48.0	29.7	2.0	0.40	1.75
White clover in blossom.....	16.7	74.8	8.5	14.9	34.3	25.6	49.2	3.5	0.62	2.05
Swedish clover in blossom.....	16.7	75.0	8.3	15.3	29.2	30.5	44.5	3.3	0.45	2.00
Swedish clover for seed.....	16.7	78.3	5.0	10.2	23.1	45.0	33.3	2.2	0.40	1.70
Lucern, tender.....	16.7	74.6	8.7	19.7	32.9	22.0	52.6	3.3	0.75	2.50
Lucern, in flower.....	16.7	76.9	6.4	14.4	22.5	40.0	36.9	2.5	0.48	2.40
Lucern sand, in flower.....	16.7	79.2	6.1	15.2	26.9	35.1	42.1	3.0	0.50	2.20
Honeysuckle, in flower.....	16.7	77.1	6.2	13.3	36.7	27.1	50.0	2.5	0.60	1.85
Clover, in flower.....	16.7	76.1	7.2	12.2	30.1	33.8	42.3	3.0	0.55	2.35
Hops, in flower.....	16.7	77.3	6.0	14.6	36.5	26.2	51.1	3.3	0.48	1.80
Vetches, in flower.....	16.7	75.0	8.3	14.2	35.3	5.5	49.5	2.5	0.53	2.30
Peas, in flower.....	16.7	76.3	7.0	14.3	36.8	25.2	51.1	2.6	0.50	2.40
Oats and vetches, in flower.....	16.7	77.1	7.2	12.6	35.5	28.0	48.1	2.3	0.57	1.30
Savarella.....	16.7	75.8	7.5	15.3	37.2	26.1	52.5	1.9	.....	.....
Italian raygrass.....	14.3	77.9	7.8	8.7	51.4	16.9	60.1	2.8	0.65	0.78
Timothy raygrass.....	14.3	81.2	4.5	9.7	48.8	22.7	38.5	3.0	.....	.....
Red-top raygrass.....	14.3	79.0	6.7	10.6	39.5	29.0	50.1	2.5	.....	.....
French raygrass.....	14.3	75.8	9.9	11.1	35.3	29.4	46.4	2.7	.....	.....
English raygrass.....	14.3	79.2	6.5	10.2	38.9	30.2	49.1	2.7	.....	.....
Sweet vernal grass.....	14.3	80.2	5.5	9.9	36.7	33.6	46.6	3.1	.....	.....
Medium of all grasses cut in blossom.....	14.3	79.9	5.8	9.5	41.7	28.7	51.2	2.6	.....	.....
II. Straw.										
Winter wheat.....	14.3	80.2	5.5	2.0	30.2	48.0	32.2	1.5	0.30	0.34
Winter rye.....	14.3	82.5	3.2	1.5	29.0	54.0	28.5	1.3	0.12	0.12
Winter barley.....	14.3	80.2	5.5	2.0	29.8	48.4	31.8	1.4	0.18	0.44
Summer barley.....	14.3	78.7	7.0	3.0	32.7	43.0	35.7	1.4	0.25	0.56
Summer barley with clover.....	14.3	77.7	8.0	6.0	34.7	37.5	40.7	1.7	0.33	0.90
Oats.....	14.3	80.7	5.0	2.5	38.2	40.0	40.7	2.0	0.15	0.50
Vetches.....	14.3	79.7	6.0	7.5	28.2	44.0	35.7	2.0	0.33	2.00
Peas.....	14.3	81.7	4.0	6.5	35.2	40.0	41.7	2.0	0.20	1.20
Beans.....	17.3	77.7	5.0	10.2	33.5	34.0	43.7	1.0	0.35	2.20
Lentils.....	14.3	79.2	6.5	14.0	27.2	36.6	41.2	2.0	0.40	2.05
Lupines.....	14.2	81.4	4.4	4.9	34.7	41.8	39.6	1.5	0.22	1.75
Maize, (corn).....	14.0	88.0	4.0	3.0	39.0	40.0	42.0	1.1	0.14	0.32
III. Chaff, &c.										
Wheat.....	14.3	73.7	12.0	4.5	33.2	36.0	37.7	1.4	0.30	0.80
Spell.....	14.3	77.2	8.5	2.9	32.8	41.5	35.7	1.3	0.24	0.30
Rye.....	14.3	78.2	7.5	3.5	28.2	46.5	31.7	1.2	0.20	0.60
Barley.....	14.3	72.7	13.0	3.0	38.7	30.0	41.7	1.5	0.21	1.00
Oats.....	14.3	67.7	18.0	4.0	29.7	34.0	33.7	1.5	0.28	0.72
Vetches.....	15.0	77.0	8.0	8.5	32.5	36.0	41.0	2.0	0.56	2.40
Peas.....	14.3	79.7	6.0	8.1	36.6	35.0	44.7	2.0	0.48	1.50
Horse beans.....	15.0	77.0	8.0	10.5	29.5	37.0	40.0	2.0	0.50	2.00
Lupines.....	14.3	89.9	2.8	2.5	47.2	33.0	49.7	2.5	0.22	0.90
Oilseed, (rape).....	14.0	77.5	8.5	3.5	40.0	34.0	43.5	1.6	0.42	2.45
Corn husks.....	14.0	83.2	2.8	1.4	44.0	37.8	45.4	1.4	0.12	0.20
IV. Green fodder.										
Grass, before blooming.....	75.0	22.9	2.1	3.0	12.9	7.0	15.9	0.8	0.18	0.30
Grass, end of blooming.....	69.0	29.0	2.0	2.5	15.0	11.5	17.5	0.7	0.15	0.30
Red clover, before blooming.....	83.0	15.5	1.5	3.3	7.7	4.5	11.0	0.7	0.11	0.44
Red clover, full blooming.....	78.0	20.3	1.7	3.7	8.6	8.0	12.3	0.8	0.11	0.53
White clover, full blooming.....	80.5	17.5	2.0	4.5	7.8	5.0	12.3	0.6	0.15	0.52
Swedish clover, beginning of blooming.....	85.0	13.5	1.5	3.3	5.7	4.5	9.0	0.6	0.10	0.40
Swedish clover, full blooming.....	82.0	16.2	1.8	3.3	6.3	6.6	9.6	0.6	0.13	0.48
Lucern, tender.....	81.0	17.3	1.7	4.5	7.8	5.0	12.3	0.6	0.14	0.49
Lucern, in flower.....	74.0	24.0	2.0	4.5	7.0	12.5	11.5	0.7	0.15	0.70

Value of food—Continued.

Kinds.	PERCENTAGE OF—									
	Water.	Organic matter.	Ashes.	Nutrient contain- ing nitrogen.	Nutrient not con- taining nitrogen.	Woody fibre.	Total amount of nutrition.	Fat.	Phosphoric acid.	Lime.
IV. Green fodder—Continued.										
Sand lucern, beginning of flower	78.0	20.1	1.9	4.0	6.6	9.5	10.6	0.8	0.15	0.67
Honeysuckle, in flower	80.0	18.5	1.5	3.2	8.8	6.5	12.0	0.6	0.14	0.45
Clover, incarnate, in flower	81.5	16.9	1.6	2.7	6.7	7.5	9.4	0.6	0.12	0.56
Clover, hops, in flower	80.0	18.5	1.5	3.5	9.0	6.0	12.5	0.8	0.12	0.45
Savarella, in flower	80.0	18.7	1.3	3.6	7.0	8.1	10.6	0.4	0.11	0.40
Peas, in flower	81.5	17.0	1.5	3.2	8.2	5.6	11.4	0.6	0.11	0.45
Vetches, in flower	82.0	16.2	1.8	3.1	7.6	5.5	10.7	0.6	0.12	0.51
Oats, in flower	81.0	17.6	1.4	2.3	8.8	6.5	11.1	0.5	0.11	0.12
Rye, green fodder	72.9	25.5	1.6	3.3	14.9	7.3	18.2	0.9	0.13	0.10
Maize, corn	84.3	14.6	1.1	0.9	8.7	5.0	9.6	0.5	0.08	0.07
Maize, early cut	82.2	16.7	1.1	1.1	10.9	4.7	12.0	0.5	0.08	0.07
Millet, mobar, blooming	65.6	32.0	2.4	5.9	15.0	11.5	20.9	1.5	0.18	0.17
Millet, sugar	74.0	25.1	0.9	2.5	15.3	7.3	17.5	1.4	0.08	0.07
White cabbage	89.0	9.8	1.2	1.5	6.3	2.0	7.8	0.4	0.12	0.24
Cabbage stems	82.0	16.1	1.9	1.1	12.2	2.8	13.3	0.3	0.12	0.30
Beet leaves	90.5	6.7	1.8	1.9	4.6	1.3	6.5	0.5	0.09	0.20
Carrot leaves	82.2	14.2	3.6	3.2	8.0	3.0	11.2	1.0	0.19	0.32
Elm and poplar leaves	70.0	28.0	2.0	6.0	15.5	6.5	21.5	1.5	0.16	0.45
Artichoke stems	80.0	17.3	2.7	3.3	10.6	3.4	13.9	0.8	0.14	0.45
V. Roots and all substances under ground.										
Potatoes	75.0	24.1	0.9	2.0	21.0	1.1	23.0	0.3	0.15	0.03
Artichoke	80.0	18.9	1.1	2.0	15.6	1.3	17.6	0.5	0.14	0.04
Beets	88.0	11.1	0.9	1.1	9.1	0.9	10.2	0.1	0.09	0.03
Beets, sugar	81.5	17.7	0.8	1.0	15.4	1.3	16.4	0.1	0.08	0.03
Turnips, cabbage	87.0	12.0	1.0	1.6	9.3	1.1	10.2	0.1	0.09	0.07
Carrots	85.0	14.0	1.0	1.5	10.8	1.7	12.3	0.2	0.08	0.08
Carrots, giant	87.0	12.2	0.8	1.2	9.8	1.2	11.0	0.2	0.07	0.07
Late (stubble) turnips	91.5	7.7	0.8	0.8	5.9	1.0	6.7	0.1	0.08	0.06
Turnips	92.0	7.2	0.8	1.1	5.1	1.0	6.2	0.1	0.08	0.06
Parsnips	88.3	11.0	0.7	1.6	8.4	1.0	10.0	0.2	0.07	0.06
Pumpkins	94.5	4.5	1.0	1.3	2.8	1.0	4.1	0.1	0.08	0.08
VI. Grains and seeds.										
Winter wheat	14.4	83.6	2.0	13.0	67.6	3.0	80.6	1.5	0.92	0.07
Wheat flour	12.6	86.7	0.7	11.8	74.1	0.7	85.9	1.2	0.40	0.02
Spelt, in husks	14.8	81.3	3.9	10.0	54.8	16.5	64.8	1.5	1.10	0.14
Winter rye	14.3	83.7	2.0	11.0	69.2	3.5	80.2	2.0	0.92	0.07
Rye flour	14.0	84.4	1.6	10.5	72.5	1.5	83.0	1.6	0.70	0.05
Barley, winter	14.3	83.4	2.3	9.0	65.9	8.5	74.9	2.5	0.80	0.07
Barley, summer	14.3	83.1	2.6	9.5	66.6	7.0	76.1	2.5	0.94	0.08
Oats	14.3	82.7	3.0	12.0	60.9	10.3	72.9	6.0	0.65	0.03
Millet	14.0	83.0	3.0	14.5	62.1	6.4	72.6	3.0	0.65	0.03
Maize, (corn)	14.4	83.5	2.1	10.0	68.0	5.5	78.0	7.0	0.95	0.03
Buckwheat	14.0	83.6	2.4	9.0	59.6	15.0	68.6	2.5	1.00	0.16
Vetches	14.3	83.4	2.3	27.5	49.2	6.7	76.7	2.7	0.87	0.12
Peas	14.3	83.2	2.5	22.4	52.3	9.2	74.8	2.5	0.85	0.13
Horse beans	14.5	82.0	3.5	25.5	45.5	11.5	71.0	2.0	1.20	0.18
Lentils	14.5	82.5	3.0	23.8	52.0	6.9	75.8	2.6	0.94	0.13
Lupines	14.5	82.0	3.5	34.5	33.0	14.5	67.5	6.0	1.25	0.18
Barley and vetches, ground together	17.0	79.0	4.0	19.3	52.1	7.6	71.4	2.3	1.00	0.16
Acorns, peeled and dry	20.0	78.4	1.6	5.0	68.8	4.6	73.8	4.3	0.32	0.11
Acorns, unpeeled, fresh	56.0	43.0	1.0	2.0	36.5	4.5	38.5	2.3	0.17	0.07
Chestnuts, peeled, fresh	49.2	49.0	1.8	3.0	45.2	0.8	48.2	2.5	0.40	0.21
Madia seed	8.4	86.9	4.7	22.9	46.0	18.0	63.9	41.0	1.88	0.36
Linseed	12.3	82.7	5.0	20.5	55.0	7.2	75.5	37.0	1.90	0.40
Oilseed, (rape)	11.0	85.1	3.9	19.4	55.4	10.3	74.8	40.0	1.80	0.58
Hemp seed	12.2	83.6	4.2	16.3	55.2	12.1	71.5	33.6	1.47	0.90
Poppy seed	14.7	78.3	7.0	17.5	54.7	6.1	72.2	41.0	2.10	0.80
VII. Refuse materials from technical pursuits.										
Beet-sugar cake	70.0	26.6	3.4	1.8	18.5	6.3	20.3	0.2	0.20	0.18
Other refuse	82.0	16.8	1.2	1.0	12.2	3.6	13.2	0.1	0.13	0.12
Potatoes, refuse, (left from distilling)	94.8	4.6	0.6	1.0	3.0	0.6	4.0	0.1	0.08	0.02
Rye, refuse, (from distilling)	89.0	10.5	0.5	2.1	6.8	1.6	8.9	0.4	0.24	0.01

Value of food—Continued.

Kinds.	PERCENTAGE OF—									
	Water.	Organic matter.	Ashes.	Nutrient contain- ing nitrogen.	Nutrient not con- taining nitrogen.	Woody fibre.	Total amount of nutriment.	Fat.	Phosphoric acid.	Lime.
VII. Refuse materials—Continued.										
Maize, refuse, (corn).....	89.0	10.5	0.5	2.0	7.2	1.3	9.2	1.2	0.24	0.01
Beer husks.....	76.6	22.2	1.2	4.9	11.1	6.2	16.0	1.6	0.38	0.12
Malt sprouts, dry.....	2.0	85.2	6.8	23.0	44.7	17.5	67.7	2.5	1.42	0.09
Sprouted malt, green.....	47.5	50.8	1.7	6.5	39.5	4.3	46.0	1.5	1.60	0.06
Sprouted malt, dry, without germs.....	4.2	93.1	2.7	8.8	76.3	8.0	85.1	2.5	0.90	0.08
Wheat bran.....	13.1	81.8	5.1	14.0	50.0	17.8	64.0	3.8	2.50	0.11
Rye bran.....	12.5	83.0	4.5	14.5	53.5	15.0	68.0	3.5	2.15	0.12
Oil cake, (rape).....	15.0	77.6	7.4	28.3	33.5	15.8	61.8	9.0	2.50	0.98
Linseed cake.....	11.5	80.6	7.9	28.3	41.3	11.1	69.6	10.0	2.10	0.88
Poppy cake.....	10.0	81.6	8.4	32.5	37.7	11.4	20.2	8.1	2.50	0.90
Hemp-seed cake.....	10.5	85.5	4.0	27.0	36.5	22.0	63.5	6.2	1.35	0.90
Beech-acorn cake.....	12.5	79.8	7.7	37.1	36.9	5.5	74.0	7.5	2.10	1.30
Beet molasses, refuse.....	16.7	72.5	10.8	8.0	64.5	.....	.....	.....	0.10	0.30
Potato cake.....	82.6	17.1	0.3	0.8	15.0	1.3	15.8	0.1	0.03	0.03
Milk of cows.....	87.0	12.3	0.7	4.0	8.3	.....	.....	3.6	0.22	0.17
Milk without cream.....	90.0	9.4	0.6	4.0	5.4	.....	.....	0.6	0.20	0.16
Buttermilk.....	90.1	9.4	0.5	3.4	6.0	.....	.....	1.0	0.16	0.12
Whey.....	94.6	5.2	0.4	0.5	4.5	.....	.....	0.5	0.11	0.08
Cream.....	64.0	35.6	0.4	4.2	31.4	.....	.....	29.3	0.12	0.09

EUROPEAN AGRICULTURAL STATISTICS.

Population, area, and acreage under crops and grass in the United Kingdom and in various foreign countries.

Countries.	Date of acreage returns.	Population, according to the latest returns.	Total area, in English statute acres.	Total acreage returned as under crops and vineyards and olive groves, (exclusive of grass.)	Acreage (in English statute acres) under corn crops.							Other kinds of grain.	Total under corn crops.
					Wheat, including spelt.	Barley, or bere.	Oats.	Rye.	Beans and peas.	Mixed grain.	Buckwheat.		
Great Britain	1866	23,128,000	56,904,000	28,704,807	3,385,304	2,237,329	2,759,923	60,077	845,061	.....	.....	.....	9,287,784
Ireland	1866	5,799,000	20,323,000	*15,549,796	300,474	152,777	1,697,648	7,753	14,781	.....	.....	.....	2,173,433
Total for United Kingdom, including Isle of Man and Channel Islands.....		29,071,000	77,513,000	*	3,697,635	2,398,485	4,469,597	67,879	860,370	.....	.....	.....	11,463,666
Sweden.....	1866	4,022,000	107,547,000	10,998,000	115,000	615,000	942,000	877,000	124,000	241,000	61,431	76,359	2,914,000
Denmark, proper.....	1861	1,663,000	9,354,000	5,545,790	140,448	687,179	811,580	473,591	94,885	.....	52	14,781	2,345,273
Württemberg.....	1863	1,748,000	4,751,000	3,010,823	544,984	237,904	317,982	102,162	18,543	.....	4,456	9,790	1,235,708
Bavaria.....	1863	4,807,000	18,907,000	11,132,867	1,043,531	828,779	1,190,704	1,460,789	135,823	.....	.....	.....	4,691,275
Holland.....	1864	3,628,000	8,617,000	5,024,246	194,730	104,315	263,613	476,984	129,080	.....	.....	.....	1,331,045
Belgium.....	1866	4,782,000	7,211,000	4,321,377	894,758	110,130	541,347	791,492	143,964	102,285	60,517	.....	2,484,493
France, (latest returns).....	.....	37,547,700	132,787,000	97,566,251	17,332,386	2,570,853	8,058,634	5,417,278	1,127,832	1,415,273	1,751,546	1,486,933	39,080,725
Austria, exclusive of Galicia, (except Cracow,) Bukowina, the Tyrol, and the military frontier, (latest returns).....	.....	24,070,000	145,310,000	58,407,589	3,682,164	2,755,415	6,573,921	6,978,008	182,927	1,749,691	514,722	3,967,260	26,384,108
Italy, including Venetia, (latest returns).....	.....	24,081,000	68,747,000	43,524,589	196,980,309	.....	.....	.....	.....	.....	.....	1357,493	27,337,802
Switzerland.....	1855	2,534,000	9,945,000	4,962,987	.....	.....	.....	.....	.....	.....	.....	.....	1,435,555

*The returns of the acreage under "permanent pastures" in Great Britain and in Ireland are not comparable, as hill pastures are excluded in Great Britain and included in Ireland.
† Total acreage under wheat and spelt, barley, oats, rye, beans and peas, mixed grain, and buckwheat.
‡ Rice fields.

Population, area, and acreage under crops and grass in the United Kingdom and in various foreign countries—Continued.

Countries.	Date of acreage returns.	Acreage (in English statute acres) under green crops.				Bare, fallow, or uncropped arable land.	Clover and artificial and other grasses under rotation.	Permanent pastures, meadows, &c.
		Potatoes.	Turnips, carrots, parsnips, man- root, and beet &c.	Other green crops, as rape, colza, &c.	Total under green crops.			
Great Britain.....	1866	498,843	2,417,744	635,943	3,552,530	964,937	3,694,334	11,148,814
Ireland.....	1866	1,050,419	341,120	90,552	1,482,091	38,000	1,600,495	*10,002,058
Total for United Kingdom, including Isle of Man and Channel Islands,.....		1,555,609	2,770,612	728,709	5,035,020	1,004,278	5,334,119	*
Sweden.....	1866	334,000					†2,850,000	4,900,000
Denmark, proper.....	1861	69,176		32,445	107,256	405,064	1,760,403	927,525
Wurtemberg.....	1865	167,948	5,635	229,587	457,745	253,845	194,906	1868,629
Bavaria.....	1863	649,735	60,210	206,422	1,018,625	1,172,133	720,800	3,635,554
Holland.....	1864	265,987	79,618	184,734	530,339	61,256	66,957	3,034,642
Belgium.....	1856	363,850	81,947	257,327	709,124	159,112	397,757	771,870
France, (latest returns).....		2,048,364	890,195	1,379,853	4,318,382	14,091,392	6,331,820	33,683,922
Austria, (exclusive of Galicia, (except Cracow,) Buko- wina, the Tyrol, and the military frontier, (latest re- turns).....		1,308,148	46,817	454,512	1,809,477	Not stated.....	1,302,434	28,911,570
Italy, including Venetia, (latest returns).....		||	||	||	||	Not stated.....	§12,186,787	.....
Switzerland.....	1855	||	||	||	||	.....	§3,927,431	.....

* The returns of the acreage under "permanent pasture" in Great Britain and in Ireland are not comparable, as hill pastures are excluded in Great Britain and included in Ireland.

† Total acreage under green crops, (except potatoes,) bare, &c., and under clover, &c.

‡ Including hill pastures.

§ Including permanent pastures, &c.

|| Not ascertained.

|| Included with acreage under corn crops.

NOTE.—In addition to the land under the above-mentioned crops, in Bavaria 54,655 acres were under vineyards; in France, 5,411,545 acres were under vineyards, and 2,445,000 acres of cultivated trees; in Italy, 1,370,279 acres were under olive grounds; in Austria, 1,395,371 were under vineyards; and in Switzerland, 68,444 were under vineyards.

STABLE-FEEDING OF COWS.

A paper has been received upon stable-feeding and its effect upon milk production, written by Dr. Rhode-Eldena, of the Royal Academy of Agriculture in Prussia. A translation has been made, from which the following statement is condensed, showing the result of actual feeding for a series of years. The number of cows, aggregate quantity, average per cow, and maximum yield of the best cow, are given for each year :

PASTURING.

Year.	No. of cows.	Milk, quarts.	Average.	Maximum.
1853	67	100,000	1,493	2,408
1854	63	100,000	1,587	2,375
1855	70	96,945	1,385	2,253
1856	57	79,727	1,400	2,180
1857	47	73,724	1,569	2,287
1858	49	83,291	1,700	2,591
1859	40	77,634	1,941	2,938

STABLE-FEEDING.

Year.	No. of cows.	Milk, quarts.	Average.	Maximum.
1860	29	79,766	2,750	4,030
1861	37	115,963	3,134	3,830
1862	38	111,310	2,930	4,150
1863	36	129,600	3,600	4,800
1864	36	126,223	3,784	5,092
1865	36	140,600	3,900	5,000
1866	35	139,300	4,000	5,110

Manner of feeding—During the winter season the animals are fed with clover hay, &c., and roots, sometimes potatoes, while in summer they are supplied with green clover, cut vetches, and often seradella (newly introduced for green fodder) in the fall. In addition oil cake and from eight to ten pounds of rye bran are administered. Mr. Hermann writes on this subject :

“In the winter, when I had scarcely any dried clover, and when my roots were all gone, I fed to my flock 400 pounds of rye bran and 50 pounds of cake daily, with hay morning and evening. Before this I gave 10 pounds of potatoes, 300 pounds bran, and 50 pounds of cake, the yield of milk being the same—that is to say, 100 pounds of bran is equal to 10 pounds of potatoes. I always use bran and other materials in their dry state, as being more digestible than when wetted and mixed. When mixed with hay or straw such quantities are devoured by the animals that the bowels are stuffed too full, and thus calves are thrown dead sometimes. This opinion has been sustained by experience, though, thinking that water is not so quickly available in the secretion of milk, I now give the rye bran in a wet state, as the quantity of milk is of great importance. The annual expense for bran and cake amounts to \$30 per cow ; quite a large sum, but not too high for cows averaging 3,784 quarts of milk, which, at two cents per quart, amounts to \$75 78, leaving a balance of \$45 78 in favor of the cow, paying not alone for board and attendance, but also producing stores of most valuable manure.”

Mr. H. reached these results by continually improving his stock and gradually

increasing the rations of food. In 1860 all poor milkers were discarded and their places supplied by superior Dutch breeds. The following figures show the increase of milk from cows of pure Dutch pedigree :

	1860.	1863.	1865.
Cow No. 4, quarts of milk	3, 636	4, 570	4, 960
Cow No. 11, quarts of milk	3, 640	4, 440	4, 710
Cow No. 16, quarts of milk	3, 804	4, 180	4, 620
Cow No. 18, quarts of milk	3, 550	4, 438	4, 490
Cow No. 20, quarts of milk	2, 804	3, 975	4, 365
Cow No. 24, quarts of milk	3, 293	4, 483	4, 800
Cow No. 1, quarts of milk .....	.....	4, 422	5, 016
Cow No. 2, quarts of milk .....	.....	4, 768	5, 009
Cow No. 27, quarts of milk .....	.....	5, 092	4, 900

Then in gradually increasing the amount and quality of food the yield of milk is increased as a natural consequence. Mr. H. thinks he has not yet attained the maximum of feeding, hence not the highest yield of milk.

DECREASE IN SIZE OF EUROPEAN FARMS.

With the increase of population comes the division of estates and the reduction in the rent of individual holdings of real estate. The French especially have suffered from the minute division and subdivision of paternal acres, tending to an uneconomical culture, the neglect of machinery and disuse of domestic animals as a motive power in agriculture. European governments are becoming alive to the evils of too minute subdivisions on the one hand, and to those of very large and neglected estates on the other.

The government of Prussia has of late been buying up some of these large estates, and selling out in small parcels. The result of its recent census shows the aggregate amount of land in farms, and the average size both of large and small farms.

Total acreage and average size of farms in Russia in 1816 and 1860.

Provinces.	LARGE FARMS.				SMALL FARMS.	
	1860.		1816.		1860.	
	Total acres.	Acres.	Total acres.	Acres.	Total acres.	Acres.
Pomerania.....	2, 601, 760	131	2, 996, 764	140	486, 975	16
Prussia (proper).....	10, 104, 887	121	10, 176, 410	120	503, 319	6
Posen (Prussian Poland).....	3, 374, 536	70	3, 459, 678	71	299, 794	8
Silesia.....	4, 091, 847	50	4, 692, 880	67	1, 219, 450	5
Brandenburg.....	5, 427, 869	109	5, 639, 171	110	431, 807	7
Saxony (Prussian).....	3, 907, 084	99	3, 839, 255	93	706, 187	6
Westphalia.....	3, 990, 450	111	3, 629, 573	101	1, 186, 994	12

EXTRACTS FROM CORRESPONDENCE.

SHEEP-RAISING IN IOWA AND TEXAS.

Van Buren county, Iowa.—Under the present system of revenue, labor pays heavy tribute to capital. Query: Cannot the poor in this climate avoid this burden in a measure? To this end I bought eight sheep of very low merino grade, with the following results:

To cost of sheep, eight head	\$20 00
To cost of hand spinner	10 00
To cost of carding wool	1 25
To cost of cotton yarn	6 00
To cost of weaving	6 50
	<hr/>
	44 25
By thirty yards of flannel, at \$1 20	\$36 00
By ten yards of jean, at \$1 50	15 00
By three pounds of stocking yarn, at \$1 50	4 50
	<hr/>
	55 50
	<hr/>
Profit first year	10 25
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The flannel and jeans are better than can be purchased in the stores at the figures given; and the above shows that when the wool is manufactured at home, sheep will not only pay for themselves in one year, but allow a profit for labor food and care. A great desideratum is a good, cheap hand loom. This year I have doubled my flock and shall continue the experiment.

Selma, Bexar county, Texas.—I have resided in western Texas for thirty-one years, and have no hesitation in stating that in my opinion no country is better adapted to raising sheep profitably than western and northern Texas. Our winters are mild, and the sheep require no feed except the grass which they get in abundance on our rich prairies, and the only expense attending the raising of sheep is giving them the proper care and attention and the necessary labor of shearing the sheep. In area Texas is larger than the whole of New England and New York combined, and can raise enough wool to supply the whole United States and still have a surplus to export. All that is needed is capital and enterprise. The land is already here; the finest pasture that man ever trod upon, and good both summer and winter. Good land is selling from one dollar to one dollar and fifty cents per acre, choice locations; and I will guarantee to any man a well watered and timbered farm for \$1 50 per acre, suitable for raising horses and sheep or for farming purposes.

DAIRY PRODUCTS IN KANSAS AND COLORADO.

Centralia, Kansas.—From my experience in dairying here, a good native cow will produce 400 pounds of cheese in the season, the average price of which is 15 cents per pound, making \$60, and no expense to keep up grass for grazing. Butter and cheese of a superior quality can be made from pasture on prairie grass, and finds a ready market in the western mining districts, at the average price here of 20 cents; cheese, 15 cents. This region is unsurpassed for stock raising and dairying, and Kansas will yet figure largely in her reports of the production of stock, wool, horses, and mules.

Glen Grove Ranch, Colorado.—I am but a small farmer and stock-grower, yet am fond of experimenting. In 1865 I milked six cows and made 923 pounds of butter, bringing in our market 84 cents per pound—\$775 32; profit

on hogs fed on milk, \$57 90; raised six calves worth \$100; total product, \$933 22, averaging \$155 54 per cow. My cows are only common stock, but I am turning attention to improving, particularly for milking qualities. * * * We have native currants here in great variety, black, yellow, and red; also a native cherry, very prolific, which grows from two to six feet high, and might be improved by cultivation and a change of climate.

CROP PROSPECTS IN MISSISSIPPI.

Issaquena county, Mississippi.—We are still on the old foggy principle—that is, we pay attention only to our cotton crop, and I must say that things begin to move on here as formerly. So far, this season, I have heard no one complain that their hands will not work, and we are all changing in that respect. In most cases the freedmen have an interest in the crop, and they appear satisfied and are working well. I give one-third of the crop and feed them. If we have a fair season and no worms, we will make a good crop in this county. The chief trouble is that we have not enough laborers, although the census shows a falling off in the county of only about 1,600, and I think there will be nearly 1,000 brought in this year.

Hinds county, Mississippi.—We have had an unusual season. The winter was very cold until about the 20th of January, when the weather moderated, and by the 15th of February it was quite warm and genial; the forest and fruit trees bloomed and leafed, and the latter formed young fruit; the farmers planted corn, the gardens were very forward, and in many instances English peas were stuck. But a change came over the scene, and on the 13th instant it began to rain, followed by sleeting and freezing. The result is that all the fruit and vegetables are killed. I have known but three entire failures of the fruit crop in this section—in 1849, 1857, 1867. There are about 500 acres in peaches in this neighborhood, and I am confident there will not be a peach grown upon them.

GRASSHOPPERS IN KANSAS.

Monrovia, Kansas.—We have had a most extraordinary season here thus far; the thermometer has marked 16° below, and we have had about forty snows. The coldest weather ever known in March occurred about two weeks since. We hope, however, that this uncommon weather will effectually kill the eggs of the grasshoppers deposited here last fall by the storm of that insect which passed over Kansas last season. Their deposit is innumerable, estimated at two bushels to the acre in fields and broken lands, but we believe here that they are already killed. * * * The peaches and apples are yet good in the bud, but I fear we will lose all at last.

PREVENTION OF HOG CHOLERA.

Winchester, Tennessee.—I have made some experiments with hog cholera (so called) with profitable results. I am of opinion that if the farmer will keep his hogs clear of lice he will have but little cholera. I think it is a disease that has its origin in the cause above named. There is, indeed, an epidemic of hog lice in the country. I have found that when my hogs were most healthy they were clearest of that pest, and all that have died have been terribly afflicted with them. External appliances have been used with some success, but the only effective remedy, or rather preventive, is the free use of sulphur, administered stirred up in tar, four ounces to the gallon, and spread on corn; or a still better plan is to take two table-spoonfuls of sulphur with a like quantity of copperas, to one pint of ashes and the same of common salt—giving small portions twice a week. All the ingredients are beneficial to the hog. If they are lousy, burn up their old beds, and do not allow them to sleep in dust, and hogs will be as healthy as they used to be.

AGRICULTURAL MATTERS AT SALT LAKE CITY.

Great Salt Lake City.—The soil of the valley in which this city is situated is varied; on the eastern portion of the city, which reaches within three miles of the eastern mountains surrounding the valley, we have a rich black soil, and about two feet below, solid beds of clay; in the northeast portion we have the gravel for twenty or thirty feet down; in the western and northern sections, black alluvial soil, reaching water in from one to five feet; and in the southern, more loamy or clayey, and accordingly in patches. In the western and northern parts of the city wheat and root crops grow prolific; in the eastern and north-eastern, corn, cane, grapes and other vines, and peaches and other fruit trees grow luxuriantly. In fruit-growing I think we stand unrivalled. Many of our apricots fruit in one year from the bud, peaches in two years, apples from two to three years, and pears from four to five years. * * * The city embraces about five miles square, and each house has its surrounding patch of one and a quarter acres or less. We have in progress a canal on the east side of the valley, and one on the west also, to convey water from the Jordan river, which, when completed, will secure the irrigation of many thousand acres.

WINE-MAKING IN WESTERN NEW YORK.

Hammondsport, Steuben county, N. Y.—Grape-growing was first undertaken here as a means of subsistence and profit by a few individuals in 1854, the fruit being sold as a luxury for eastern city consumers. The adaptation of the soil and climate about Crooked lake to vine culture proved so good, and the remuneration so constant and abundant, the attention of men of enterprise and capital was soon arrested, and the production swelled to such an extent that apprehensions were entertained that it would fail of profitable sale as fruit only, and the necessity for a market nearer home was felt. The possibility of making good, healthy wine from our native grapes, Isabella and Catawba, had been established by Nicholas Longworth and others, of Cincinnati, and it was believed it could be done here. Consequently, in 1860, a company was organized, wine vaults and press-house were constructed, and the business commenced with a capital of a few thousand dollars. An abundance of well-ripened fruit, a ready sale of their pure native wine and unadulterated brandy showed clearly that the Pleasant Valley was a success, and warranted an extension of the enterprise and an increase in their capital stock to meet the wants of producers and consumers, which was done, and, in addition to brandy and dry wine, the manufacture of sparkling wine was commenced, rivalling in perfection of flavor the best European brands of champagne. * * * Within twelve years grape-growing in this vicinity has increased from a few hundred pounds, sold in New York city and Boston, to car-loads for these and other eastern cities, and from the area of a few acres in 1854-'55 to 3,000 acres in 1866; and the capital employed in the manufacture of the fruit into healthful and delicious wines and pure brandy increased, in six years only, from \$10,000 to over \$300,000. One establishment now puts up and sells 40,000 bottles of sparkling wine, in addition to a largely increased amount of dry hock wine. There are two other companies organized, but not yet in full operation.

THE FREEDMEN IN VIRGINIA.

Powhatan county, Va.—No complaints of want of labor reach me. Freedmen are employed generally, and conduct themselves with propriety. If let alone, they will need no other protection than that of the law. It would seem that there is more crime among them than prevailed formerly, from the fact of many being committed to jail for minor offences. These were more mercifully

treated in former days by the masters of slaves, who had some discretion, like that of justices of the peace, in the punishment of crime; but now the poor creatures have to be committed to jail, like white persons, and await trial in due course of law. This severity is mitigated by bailing them whenever it can be done. These things make crime *seem* on the increase, when, in fact, there is probably less than formerly. The colored population has diminished, though some who emigrated during the war are returning to us. Is it not very good proof of their being humanely treated as slaves, when many such return to their former masters?

Table showing the number, price, and value of the live stock in each of the States named, for the different ages, on the 1st day of February, 1867.

HORSES.

States.	Under one year old.			Between one and two years old.			Between two and three years old.			Over three years old.			Total value of all ages.	Total number of all ages.	Total value of all ages.
	Number.	Average price.	Total value.	Number.	Average price.	Total value.	Number.	Average price.	Total value.	Number.	Average price.	Total value.			
Maine.....	7,408	\$36 41	\$209,725	12,295	\$38 27	\$755,471	17,287	\$86 59	\$1,496,781	14,200	\$127 91	\$1,816,322	\$4,338,299	51,190	\$1,816,322
New Hampshire.....	5,014	36 44	182,710	8,774	64 11	562,501	11,699	90 55	1,059,344	9,669	119 11	1,144,328	35,096	35,096	35,096
Vermont.....	7,680	32 85	250,935	12,313	51 96	637,435	16,404	81 75	1,341,027	13,475	117 50	1,583,352	49,222	49,222	49,222
Massachusetts.....	6,980	38 88	269,438	12,127	66 11	801,716	16,170	94 44	1,527,095	13,282	141 50	1,879,403	48,509	48,509	48,509
Rhode Island.....	1,707	38 75	65,781	2,507	65 00	163,955	3,276	91 25	297,675	1,870	123 75	231,412	6,828	6,828	6,828
Connecticut.....	5,430	33 00	179,191	9,502	61 00	513,108	12,670	81 00	1,006,270	10,407	111 00	1,155,177	38,009	38,009	38,009
New York.....	62,482	42 40	2,649,297	109,343	68 87	7,530,452	145,701	104 33	15,290,375	119,756	138 89	16,632,911	437,372	437,372	437,372
New Jersey.....	11,712	53 43	624,601	20,496	82 00	1,680,472	27,358	119 00	3,250,032	22,448	154 17	3,020,808	81,984	81,984	81,984
Pennsylvania.....	57,704	41 39	2,392,094	101,138	68 86	6,964,363	134,862	100 77	13,580,036	110,771	134 86	14,938,577	404,555	404,555	404,555
Delaware.....	2,439	45 00	109,755	4,289	67 50	288,157	5,692	92 50	926,510	4,675	125 00	584,375	14,584	14,584	14,584
Maryland.....	12,143	39 62	481,106	21,222	64 75	1,381,124	28,333	94 85	2,687,855	23,402	128 50	3,001,312	70,516	70,516	70,516
Virginia.....	14,595	37 88	550,065	24,859	59 63	1,477,427	37,145	77 91	4,400,733	27,227	105 98	4,978,778	93,436	93,436	93,436
North Carolina.....	6,258	38 12	238,555	10,352	58 12	636,530	14,602	81 25	2,710,490	11,996	118 75	3,024,108	43,808	43,808	43,808
South Carolina.....	10,275	42 30	434,632	17,381	65 09	1,220,383	33,975	91 39	3,191,075	19,633	124 00	2,441,932	71,924	71,924	71,924
Georgia.....	1,087	43 00	47,171	1,920	73 00	140,169	2,560	101 00	258,560	2,103	162 50	341,738	7,080	7,080	7,080
Florida.....	11,091	32 30	358,239	19,410	50 91	988,163	25,880	79 58	1,999,530	26,210	114 15	2,991,871	83,591	83,591	83,591
Alabama.....	9,765	41 66	406,810	17,069	59 50	1,016,795	32,785	91 00	2,073,435	13,716	135 00	2,661,600	63,355	63,355	63,355
Mississippi.....	5,173	34 28	177,380	9,052	50 00	452,600	12,069	77 85	939,572	9,914	118 57	1,175,503	36,208	36,208	36,208
Louisiana.....	38,526	14 30	550,922	67,420	23 58	1,589,761	89,893	35 04	3,149,851	73,841	51 52	3,804,288	269,680	269,680	269,680
Texas.....	14,214	30 00	426,420	22,375	50 00	1,117,750	29,834	70 38	2,099,717	23,079	100 00	2,307,900	89,502	89,502	89,502
Arkansas.....	36,301	44 37	1,615,675	63,628	66 75	4,275,491	83,703	90 62	7,585,166	61,271	114 10	8,053,064	254,111	254,111	254,111
Tennessee.....	31,968	40 11	1,282,296	55,944	58 47	3,271,046	78 50	5,855,472	5,855,472	70,579	99 00	6,065,869	224,775	224,775	224,775
Kentucky.....	41,022	34 35	1,409,106	71,789	50 77	3,644,727	95,719	70 55	6,752,975	67,627	95 31	7,493,939	287,157	287,157	287,157
Missouri.....	86,951	36 90	3,208,492	152,164	58 66	8,894,642	292,886	80 59	16,350,583	166,636	113 56	18,925,455	608,657	608,657	608,657
Illinois.....	78,075	34 68	1,943,571	148,676	54 70	5,364,757	130,768	77 76	10,168,530	107,416	103 60	11,128,297	392,303	392,303	392,303
Indiana.....	78,075	35 25	2,792,143	136,631	56 07	7,660,900	182,174	80 78	14,716,015	149,644	109 00	16,311,196	546,934	546,934	546,934
Ohio.....	27,513	36 97	1,017,155	48,147	73 26	3,087,666	64,197	94 55	6,050,367	52,733	133 92	7,062,003	192,300	192,300	192,300
Michigan.....	29,431	48 34	1,422,840	51,369	73 26	3,773,549	104,197	103 88	7,134,375	56,415	149 04	8,408,091	206,037	206,037	206,037
Wisconsin.....	7,110	48 51	344,906	12,442	76 93	948,563	16,590	117 70	1,352,643	13,628	133 55	2,092,580	49,770	49,770	49,770
Minnesota.....	55,719	40 06	2,232,103	97,509	60 89	5,888,568	130,012	85 50	11,193,626	106,795	117 65	12,564,432	330,035	330,035	330,035
Iowa.....	5,568	32 33	179,949	9,741	50 92	489,193	12,988	73 17	950,332	10,608	93 61	998,631	28,963	28,963	28,963
Kansas.....	1,947	41 33	80,470	3,407	66 33	225,986	4,583	92 33	419,455	3,733	120 00	447,960	13,670	13,670	13,670
Nebraska.....	772,260	.....	27,825,404	1,318,268	.....	78,330,983	1,707,651	.....	151,993,471	1,483,684	.....	171,121,937	5,401,963	5,401,963	5,401,963

Table showing the number, price, and value of the live stock, &c.—Continued.

CATTLE AND OXEN.

States.	Under one year old.			Between one and two years old.			Between two and three years old.			Over three years old.			Total number of all ages.	Total value of all ages.
	Number.	Average price.	Value.	Number.	Average price.	Value.	Number.	Average price.	Value.	Number.	Average price.	Value.		
Maine.....	25,924	\$15 39	\$398,870	44,440	\$28 54	\$1,268,318	51,847	\$43 95	\$2,278,076	33,330	\$71 18	\$2,372,429	155,541	\$6,318,293
New Hampshire.....	14,128	13 88	265,497	32,731	25 25	826,989	38,257	41 22	1,576,354	24,594	74 11	1,822,601	114,770	4,462,101
Vermont.....	24,618	12 30	302,771	42,202	24 10	1,017,068	49,235	40 40	1,989,094	31,651	73 00	2,310,535	5,619,456	
Massachusetts.....	18,098	15 33	277,442	31,025	25 33	785,863	36,196	44 44	1,608,550	22,799	86 00	2,160,714	106,118	4,852,569
Rhode Island.....	3,403	17 66	60,471	5,853	27 50	160,407	6,806	43 00	292,658	4,375	80 00	350,000	20,417	863,536
Connecticut.....	24,473	13 66	333,247	41,926	25 66	1,075,540	48,337	45 83	2,242,783	31,477	72 50	2,282,082	146,813	5,983,652
New York.....	123,490	13 96	1,723,920	211,697	26 94	5,703,117	246,980	44 24	10,926,395	158,773	68 57	10,887,069	740,940	29,240,501
New Jersey.....	15,713	17 33	272,306	26,937	27 91	751,812	31,426	45 00	1,414,170	20,203	70 58	1,725,728	94,379	4,164,016
Pennsylvania.....	115,558	12 49	1,443,319	198,100	22 84	4,524,604	231,117	36 71	8,484,305	148,576	56 97	8,464,375	693,351	22,916,603
Delaware.....	6,188	10 50	64,974	10,618	16 50	175,197	12,343	27 50	339,332	7,980	42 50	339,150	37,129	918,653
Maryland.....	19,270	11 75	227,423	30,178	18 75	565,837	35,208	28 12	990,049	30,967	43 50	1,347,069	115,623	3,130,378
Virginia.....	47,071	6 84	321,965	80,692	11 72	945,710	94,141	19 14	1,801,860	60,520	29 00	1,755,080	282,424	4,824,615
North Carolina.....	48,820	3 79	185,028	83,692	6 48	512,324	97,640	9 64	941,250	62,769	15 46	970,410	292,921	2,630,532
South Carolina.....	27,843	4 00	111,372	47,730	6 81	325,041	55,286	15 75	877,055	35,708	16 12	577,060	166,657	1,800,532
Georgia.....	56,396	4 52	254,910	96,680	7 83	756,004	112,793	11 71	1,320,806	72,500	17 16	1,244,254	338,378	3,575,974
Florida.....	29,027	3 50	101,595	49,760	5 20	258,752	58,054	10 25	595,053	37,320	12 50	466,500	174,161	1,421,900
Alabama.....	38,944	4 04	157,334	68,820	8 50	584,970	77,880	13 83	1,100,411	50,071	18 23	912,704	233,663	2,388,541
Mississippi.....	40,145	5 04	202,331	66,790	8 50	564,970	80,290	13 83	1,100,411	51,614	22 17	1,144,282	240,869	2,011,994
Louisiana.....	25,355	5 71	144,777	43,465	8 78	381,263	50,710	14 36	728,195	32,590	20 28	661,107	152,129	1,915,342
Texas.....	409,678	9 23	913,582	702,304	3 85	2,703,870	819,355	6 20	5,153,713	596,738	9 46	4,982,807	2,458,065	13,751,012
Arkansas.....	29,110	4 23	93,551	37,912	7 12	269,933	44,321	12 00	530,772	28,435	17 92	500,555	128,934	1,403,811
Kentucky.....	33,138	5 24	173,643	56,808	9 74	553,310	66,277	16 00	1,100,198	42,607	24 44	1,041,315	198,830	2,462,465
Tennessee.....	63,368	11 16	714,106	103,694	19 35	2,122,579	127,976	30 44	3,895,380	82,270	41 50	3,389,324	383,928	10,121,709
Missouri.....	153,812	7 42	614,227	141,907	13 42	1,904,352	165,359	21 77	3,604,220	106,430	32 83	3,494,097	496,076	21,077,443
Illinois.....	82,780	8 93	735,045	263,678	16 41	4,356,956	367,625	26 10	9,629,012	197,759	40 19	7,947,974	922,874	22,027,453
Indiana.....	81,293	8 93	735,045	263,678	16 41	4,356,956	367,625	26 10	9,629,012	197,759	40 19	7,947,974	922,874	22,027,453
Ohio.....	119,758	11 51	1,378,415	205,298	21 22	4,415,960	239,515	31 92	8,363,864	153,975	51 02	7,857,546	718,546	22,015,563
Michigan.....	53,313	11 36	594,373	89,680	19 53	1,903,010	104,628	36 60	3,829,311	67,258	63 70	4,418,850	330,851	10,497,040
Wisconsin.....	65,139	10 02	652,693	111,667	18 10	2,003,190	130,278	29 30	3,817,145	83,750	53 23	4,458,012	390,874	10,970,440
Iowa.....	99,871	8 94	892,847	171,208	15 57	2,665,708	199,742	31 62	6,241,880	138,406	52 68	7,244,414	857,783	14,524,096
Minnesota.....	23,238	8 75	203,325	39,586	15 17	628,214	46,476	26 40	1,226,966	29,878	38 40	1,147,315	130,428	3,205,827
Kansas.....	11,257	8 93	100,022	19,298	17 40	335,785	22,514	29 26	658,759	14,473	46 26	1,602,521	1,761,590	
Nebraska.....														
Total.....	1,954,976		15,597,174	3,348,505		48,257,556	3,906,175		92,178,519	2,521,296		93,318,433	11,730,952	249,351,682

Table showing the number, price, and value of the live stock, &c.—Continued.

MILCH COWS AND SHEEP

States.	Milk cows.			Sheep under one year old.			Sheep over one year old.			Total number of sheep of all ages.	Total value of sheep of all ages.
	Number.	Average price.	Value.	Number.	Average price.	Value.	Number.	Average price.	Value.		
Maine.....	129,891	\$48 36	\$6,281,529	292,971	\$2 77	\$820,400	671,913	\$3 58	\$2,405,448	895,884	\$3,025,848
New Hampshire.....	74,378	47 11	3,574,953	155,843	3 18	485,581	1,001,528	3 53	1,630,374	823,371	2,145,955
Vermont.....	172,094	52 35	8,991,911	333,995	2 87	958,566	1,407,528	4 10	4,108,139	1,355,960	5,066,705
Massachusetts.....	123,992	59 80	7,390,861	49,758	2 56	127,380	149,275	4 75	709,036	199,033	836,436
Rhode Island.....	20,581	55 00	1,131,955	9,239	2 81	25,962	27,719	3 94	109,212	36,958	135,174
Connecticut.....	123,720	55 50	6,866,460	47,177	4 20	197,723	141,131	5 80	818,559	188,308	1,016,282
New York.....	1,324,263	57 22	75,774,329	1,343,251	3 41	4,580,486	4,029,754	4 94	19,906,985	5,373,005	24,487,471
New Jersey.....	137,728	63 25	8,711,296	47,537	5 36	254,798	142,613	6 70	955,507	190,150	1,210,305
Pennsylvania.....	657,362	47 36	31,132,664	864,142	2 92	2,523,295	2,592,426	4 47	11,588,144	3,456,568	14,111,439
Delaware.....	17,294	40 00	691,760	4,375	3 50	15,312	13,225	5 00	66,125	17,600	81,437
Maryland.....	87,269	41 62	3,632,136	69,581	3 50	243,533	208,745	4 94	1,031,200	278,326	1,274,733
Virginia.....	260,698	29 71	7,745,337	175,165	1 96	343,325	525,500	2 76	1,450,380	700,666	1,793,705
North Carolina.....	203,555	20 05	4,081,278	84,814	1 21	102,625	254,444	1 96	498,710	339,258	601,335
South Carolina.....	148,144	22 11	3,275,463	54,176	1 25	67,720	162,528	2 36	383,566	216,704	451,286
Georgia.....	245,033	21 64	5,309,514	86,504	1 37	118,210	259,513	2 01	531,621	346,017	649,831
Florida.....	81,958	15 40	1,262,153	1,538	1 75	2,692	4,493	2 55	11,457	6,031	14,149
Alabama.....	176,271	25 38	4,456,131	69,124	1 31	90,552	297,383	2 21	458,316	276,507	548,868
Mississippi.....	160,580	23 82	3,825,015	63,474	1 06	67,382	190,421	3 25	436,064	253,895	503,346
Louisiana.....	74,930	24 17	1,811,058	91,977	2 08	45,712	65,931	3 99	211,775	257,487	474,887
Texas.....	653,410	32 70	7,318,192	295,048	1 63	383,128	705,147	2 33	1,642,992	940,195	2,026,120
Arkansas.....	183,535	27 88	5,116,556	28,445	1 62	46,961	85,337	3 04	259,424	113,782	305,515
Kentucky.....	137,214	39 16	5,396,500	140,357	1 70	238,806	121,070	3 21	1,010,568	961,427	1,949,174
Missouri.....	281,218	29 86	8,397,170	231,377	1 77	444,937	693,895	3 21	2,246,663	1,005,509	2,345,349
Illinois.....	534,236	35 90	19,179,072	691,018	2 35	1,623,892	2,072,054	3 39	6,924,413	2,764,072	8,631,545
Indiana.....	422,883	38 80	16,407,860	738,467	1 83	1,357,995	2,275,403	2 63	5,984,310	3,032,870	7,372,305
Ohio.....	683,987	44 94	30,738,375	1,759,794	2 37	4,170,220	5,369,383	3 35	17,927,433	7,159,177	25,157,653
Michigan.....	246,158	47 27	11,635,888	1,007,192	2 43	2,487,764	3,021,575	3 72	11,246,259	4,028,767	13,738,053
Wisconsin.....	315,557	38 00	11,991,166	416,097	2 67	1,052,725	1,248,291	3 86	4,818,438	1,664,388	5,871,128
Minnesota.....	100,507	36 00	3,618,252	32,578	2 67	86,983	97,736	3 94	385,080	130,314	472,063
Iowa.....	345,113	31 35	10,819,293	599,856	2 25	1,349,676	1,799,569	3 25	5,848,600	2,399,425	7,198,276
Kansas.....	82,075	32 11	2,635,428	27,072	2 44	66,055	81,215	3 56	289,125	108,287	355,180
Nebraska.....	23,436	34 43	806,901	5,203	2 68	13,944	15,608	3 93	61,340	20,811	75,284
Total.....	8,348,773	.....	322,039,201	9,921,444	.....	24,741,760	29,463,942	.....	108,032,900	39,385,386	132,774,600

Table showing the number, price, and value of the live stock, &c.—Continued.

HOGS.

States.	Under one year old.			Over one year old.			Total number.	Total value.
	Number.	Average price.	Value.	Number.	Average price.	Value.		
Maine.....	28, 104	\$12 54	\$352, 424	9, 368	\$23 97	\$224, 551	37, 472	\$576, 975
New Hampshire.....	24, 906	15 80	393, 515	8, 302	33 83	280, 657	33, 208	1, 774, 372
Vermont.....	27, 147	11 95	324, 407	9, 049	22 81	206, 408	36, 196	530, 815
Massachusetts.....	33, 044	11 86	390, 171	11, 134	26 16	291, 265	44, 258	1, 087, 436
Rhode Island.....	9, 614	12 75	122, 921	3, 214	24 75	79, 545	12, 828	302, 505
Connecticut.....	40, 051	11 80	472, 682	13, 550	27 80	371, 130	53, 401	843, 752
New York.....	519, 105	9 79	5, 081, 028	173, 035	18 64	3, 225, 372	692, 140	8, 306, 410
New Jersey.....	151, 695	11 36	1, 723, 255	50, 465	20 20	1, 021, 413	202, 260	2, 744, 668
Pennsylvania.....	769, 377	6 66	5, 124, 051	256, 459	43 86	3, 551, 522	1, 025, 836	8, 678, 573
Delaware.....	98, 887	7 00	692, 309	9, 629	10 00	96, 290	38, 516	298, 499
Maryland.....	985, 407	3 18	3, 178, 408	98, 469	12 31	1, 212, 153	385, 876	2, 690, 561
Virginia.....	791, 159	3 96	3, 106, 138	263, 986	9 60	2, 534, 266	1, 055, 945	5, 570, 424
North Carolina.....	870, 612	3 18	2, 762, 546	290, 204	8 07	2, 311, 946	1, 160, 816	5, 110, 492
South Carolina.....	254, 544	3 30	806, 113	74, 848	7 72	579, 827	299, 392	1, 185, 940
Georgia.....	1, 222, 402	3 46	3, 883, 511	374, 134	8 12	3, 037, 968	1, 506, 536	6, 921, 479
Florida.....	70, 936	2 33	165, 258	23, 642	4 91	116, 082	94, 568	281, 340
Alabama.....	614, 422	3 09	1, 898, 564	204, 894	7 88	1, 613, 856	819, 226	3, 512, 420
Mississippi.....	538, 413	2 82	1, 518, 325	179, 471	7 77	1, 394, 490	717, 884	2, 912, 815
Louisiana.....	163, 707	4 17	682, 658	54, 569	9 00	491, 121	218, 276	1, 173, 779
Texas.....	984, 417	1 97	1, 939, 304	328, 139	4 54	1, 489, 751	1, 312, 556	3, 429, 052
Arkansas.....	987, 984	3 14	3, 102, 270	120, 216	7 09	1, 101, 785	480, 864	3, 479, 479
Tennessee.....	1, 413, 213	3 58	5, 039, 303	329, 326	7 00	2, 305, 296	1, 317, 310	5, 407, 565
Kentucky.....	1, 016, 651	2 87	2, 916, 066	471, 071	7 92	3, 730, 882	1, 884, 984	8, 790, 185
Missouri.....	1, 704, 480	4 68	7, 976, 966	338, 083	6 32	2, 139, 213	1, 354, 734	5, 124, 279
Illinois.....	1, 916, 898	3 67	7, 034, 869	568, 160	10 30	5, 852, 048	2, 973, 640	13, 829, 014
Indiana.....	1, 654, 633	4 73	7, 826, 414	638, 953	7 90	5, 047, 739	2, 555, 811	12, 082, 598
Ohio.....	310, 650	4 94	1, 534, 611	551, 544	11 30	6, 232, 417	2, 408, 177	14, 026, 601
Michigan.....	989, 711	4 62	4, 586, 465	103, 550	10 94	1, 132, 837	414, 300	5, 699, 448
Wisconsin.....	108, 227	6 61	715, 380	96, 570	10 83	1, 045, 853	386, 381	2, 607, 448
Minnesota.....	1, 249, 181	3 95	4, 934, 265	40, 075	13 86	536, 000	141, 302	1, 215, 380
Iowa.....	95, 906	6 30	604, 208	410, 394	8 38	3, 461, 352	1, 663, 575	8, 423, 647
Kansas.....	35, 986	6 58	236, 788	31, 969	13 33	426, 147	1, 030, 355	1, 267, 147
Nebraska.....	18, 542, 657	.....	76, 923, 774	11, 955	12 44	149, 218	47, 981	1, 386, 006
Total.....	18, 542, 657	.....	76, 923, 774	6, 150, 877	.....	57, 187, 650	34, 693, 534	134, 111, 424

AMOUNT, IN TENTHS, AND PRICES OF FARM STOCK IN JANUARY, 1867.

Table showing the amount, in tenths, of the farm stock of the States named in January, 1867, compared with the amount in January, 1866, and the prices of the same in January, 1867, for the different ages.

States.	HORSES.				
	Average number of horses compared with that of February 1, 1866.	Average price per head of same under one year old.	Average price per head of same between one and two years old.	Average price per head of same between two and three years old.	Average price per head of same over three years old.
Maine	10.2	\$36 41	\$58 27	\$86 59	\$127 91
New Hampshire	10.1	36 44	64 11	90 55	119 11
Vermont	10.3	32 85	54 90	81 75	117 50
Massachusetts	10	38 88	66 11	94 44	141 50
Rhode Island	10	38 75	65 00	91 25	123 75
Connecticut	10	33 00	54 00	81 00	111 00
New York	10.7	42 40	68 97	104 33	138 89
New Jersey	10.3	53 33	82 00	119 00	154 17
Pennsylvania	10.2	41 39	68 86	100 77	134 86
Delaware	11	45 00	67 50	92 50	125 00
Maryland	10.2	39 62	64 75	94 85	128 50
Virginia	10	33 51	53 77	77 21	105 38
North Carolina	10	37 88	59 03	81 79	110 96
South Carolina	9	38 12	58 12	81 25	118 75
Georgia	10	42 30	65 09	91 39	124 00
Florida	10.2	43 00	73 00	101 00	162 50
Alabama	9.4	32 30	50 91	79 58	114 15
Mississippi	10.2	41 66	59 50	91 00	135 00
Lousiana	10.7	34 28	50 00	77 85	118 57
Texas	9.2	14 30	23 58	35 04	51 52
Arkansas	11.2	30 00	50 00	70 38	100 00
Tennessee	11.2	41 37	66 75	90 62	114 10
West Virginia	11	38 66	57 11	76 00	102 22
Kentucky	10.7	40 11	58 47	78 50	99 00
Missouri	12.2	34 35	50 77	70 55	95 31
Illinois	10.6	36 90	58 06	80 59	113 56
Indiana	10.4	34 68	54 70	77 76	103 60
Ohio	10.5	35 25	56 07	80 78	109 00
Michigan	11.2	36 97	64 13	94 25	133 92
Wisconsin	11.8	48 34	73 26	103 88	149 04
Minnesota	12.6	48 51	76 23	117 70	153 55
Iowa	11.4	40 06	60 39	85 50	117 65
Kansas	12	32 33	50 22	73 17	93 61
Nebraska	12	41 33	66 33	92 33	120 00
Colorado	11.5	32 50	53 33	72 50	100 83
Utah Territory	10.8	26 26	43 00	68 00	89 00
New Mexico { Mexican .....	.....	16 00	31 25	47 50	73 75
{ American .....	.....	.....	.....	60 00	150 00
California	10.6	24 14	35 00	46 86	72 14

Table showing the amount, in tenths, and prices of farm stock, &c—Continued.

States.	MULES.				
	Average number of mules compared with that of February 1, 1866.	Average price per head of same under one year old.	Average price per head of same between one and two years old.	Average price per head of same between two and three years old.	Average price per head of same over three years old.
Maine.....	11				
New Hampshire.....	10				
Vermont.....	10	\$60 00	\$85 00	\$125 00	\$150 00
Massachusetts.....					
Rhode Island.....					
Connecticut.....	10	30 00	50 00	70 00	77 50
New York.....	10.3	44 80	74 83	106 50	150 92
New Jersey.....	10.4	52 50	93 57	155 55	181 11
Pennsylvania.....	10.5	50 58	83 30	124 00	153 00
Delaware.....	10.5	67 50	80 00	107 50	140 00
Maryland.....	10.7	40 50	67 17	104 17	136 66
Virginia.....	10	36 00	65 24	95 00	123 33
North Carolina.....	9.6	42 91	65 55	93 57	126 55
South Carolina.....	9.1	43 75	68 12	110 00	145 00
Georgia.....	10.4	49 29	73 90	115 20	150 00
Florida.....	10.5	65 00	93 33	127 50	171 00
Alabama.....	12.2	64 44	63 33	120 83	158 00
Mississippi.....	11.3	46 00	73 50	106 50	141 66
Louisiana.....	10.7	35 00	57 00	90 71	138 57
Texas.....	10.1	20 21	33 79	53 16	74 24
Arkansas.....	11.5	38 85	58 84	89 42	124 23
Tennessee.....	10	48 25	73 54	106 00	132 28
West Virginia.....	9.8	44 66	65 00	91 00	117 70
Kentucky.....	10	51 58	75 50	103 44	131 00
Missouri.....	11.7	43 84	64 84	90 66	118 22
Illinois.....	10.8	47 53	71 58	100 80	133 13
Indiana.....	10.7	42 75	66 77	94 60	120 90
Ohio.....	10.7	45 60	68 55	96 58	124 95
Michigan.....	11.6	47 06	76 75	107 44	149 23
Wisconsin.....	11.8	48 83	75 35	117 61	162 32
Minnesota.....	12.1	51 44	82 55	116 00	157 58
Iowa.....	11	49 03	73 46	102 91	137 19
Kansas.....	11.5	42 17	62 53	88 05	115 66
Nebraska.....	11	59 10	90 90	129 10	155 77
Colorado.....	12.1	51 44	82 55	116 00	157 58
Utah Territory.....	11.6	36 67	53 33	70 00	123 33
New Mexico. { Mexican.....		22 50	36 00	52 50	92 50
{ American.....				75 00	125 00
California.....	10.4	25 00	37 50	63 33	88 33

Table showing the amount, in tenths, and prices of farm stock, &c.—Continued.

States.	CATTLE AND OXEN.				
	Average number of cattle and oxen compared with that of February 1, 1866.	Average price per head of same under one year old.	Average price per head of same between one and two years old.	Average price per head of same between two and three years old.	Average price per head of same over three years old.
Maine.....	10	\$15 39	\$28 54	\$43 95	\$71 18
New Hampshire.....	10	13 88	25 22	41 22	74 11
Vermont.....	10.3	12 30	24 10	40 40	73 00
Massachusetts.....	9.3	15 33	25 33	44 44	86 00
Rhode Island.....	10	17 77	27 50	43 00	80 00
Connecticut.....	10.5	15 66	25 66	45 83	72 50
New York.....	10.2	13 96	26 94	44 24	68 57
New Jersey.....	10.5	17 33	27 91	45 00	70 58
Pennsylvania.....	10	12 49	22 84	36 71	56 97
Delaware.....	9	10 50	16 50	27 50	42 50
Maryland.....	10	11 75	18 75	28 12	43 50
Virginia.....	11.2	6 84	11 72	19 14	29 00
North Carolina.....	9.6	3 79	6 48	9 64	15 46
South Carolina.....	8.6	4 00	6 81	15 75	16 12
Georgia.....	9.3	4 52	7 83	11 71	17 16
Florida.....	9.4	3 50	5 20	10 25	12 50
Alabama.....	9.6	4 04	7 16	10 79	18 23
Mississippi.....	9.5	5 04	8 50	13 83	22 17
Louisiana.....	9	5 71	8 78	14 36	20 28
Texas.....	10.3	2 23	3 85	6 29	9 46
Arkansas.....	12.4	4 23	7 12	12 00	17 92
Tennessee.....	11.2	5 24	9 74	16 60	24 44
West Virginia.....	10.7	11 90	20 17	30 00	41 38
Kentucky.....	9.8	11 16	19 35	30 44	41 20
Missouri.....	11.1	7 42	13 42	21 77	32 83
Illinois.....	10	8 93	16 41	26 10	40 19
Indiana.....	9.7	8 93	17 15	28 20	40 62
Ohio.....	10.1	11 51	21 51	34 92	51 03
Michigan.....	10.6	11 36	21 22	36 60	65 70
Wisconsin.....	10.4	10 02	18 53	29 30	53 23
Minnesota.....	12	9 85	18 10	31 42	52 68
Iowa.....	10.5	8 94	15 57	26 64	42 40
Kansas.....	10.7	8 75	15 77	26 40	38 40
Nebraska.....	10.5	8 93	17 40	29 26	46 26
Colorado.....	12.8	13 00	22 67	40 67	51 17
Utah.....	11	9 60	19 60	31 40	46 40
New Mexico { Mexican.....	.....	8 00	13 50	23 00	32 50
{ American.....	.....	15 00	20 00	35 00	50 00
California.....	10.9	7 17	13 50	22 50	33 33

Table showing the amount, in tenths, and prices of farm stock, &c.—Continued.

States.	MILCH COWS.		SHEEP.			HOGS.		
	Average number of milch cows compared with that of February, 1866.	Average price per head of cows at this time.	Average number of sheep compared with that of February, 1866.	Average price per head of same under one year old.	Average price per head of same over one year old.	Average number of hogs compared with that of February, 1866.	Average price of same per head under one year old.	Average price of same per head over one year old.
Maine.....	10	\$48 36	8.6	\$2 77	\$3 58	10.6	\$12 54	\$23 97
New Hampshire.....	10.2	47 11	9.2	3 18	3 53	10.6	15 80	33 83
Vermont.....	10.6	52 25	9.7	2 87	4 10	11	11 95	22 81
Massachusetts.....	9.7	59 80	9	2 56	4 75	9.8	11 86	26 16
Rhode Island.....	10	55 00	10.3	2 81	3 94	11	12 75	24 75
Connecticut.....	10.1	55 50	10	4 20	5 80	10.2	11 80	27 80
New York.....	10.7	57 22	10.5	3 41	4 94	10.3	9 79	18 64
New Jersey.....	10.5	63 25	10.5	5 36	6 70	10.5	11 36	20 20
Pennsylvania.....	10.3	47 36	10.7	2 92	4 47	11.5	6 66	13 86
Delaware.....	9	40 00	10	3 50	5 00	12	7 00	10 00
Maryland.....	9.7	41 62	10.6	3 50	4 94	10.7	5 18	12 31
Virginia.....	10.2	29 71	9.2	1 96	2 76	11	3 96	9 60
North Carolina.....	10	20 05	8.5	1 21	1 96	9.2	3 18	8 07
South Carolina.....	9	22 11	8	1 25	2 36	6.2	3 59	7 72
Georgia.....	9.6	21 64	9	1 37	2 01	10.5	3 46	8 12
Florida.....	10.4	15 40	10.2	1 75	2 55	8.7	2 33	4 91
Alabama.....	9	25 28	9	1 31	2 21	9	3 09	7 88
Mississippi.....	10	23 82	9	1 06	2 29	8.8	2 82	7 77
Louisiana.....	10	24 17	9.7	2 08	3 25	8	4 17	9 00
Texas.....	10.6	11 20	10.4	1 63	2 33	11	1 97	4 54
Arkansas.....	12	22 77	12.2	1 62	3 04	15.2	3 54	9 19
Tennessee.....	11.2	27 88	11	1 70	2 40	12.5	3 14	7 00
West Virginia.....	10.4	38 00	11.2	1 79	2 83	11	3 06	7 97
Kentucky.....	10.2	39 16	10.8	2 18	3 21	10.5	3 58	7 92
Missouri.....	11.2	29 86	12.1	1 77	2 52	13.7	2 87	6 52
Illinois.....	10.2	35 90	11.3	2 35	3 39	11.5	4 68	10 30
Indiana.....	10	38 80	10.9	1 83	2 63	11.3	3 67	7 90
Ohio.....	10.3	44 94	10.9	2 33	3 35	12	4 73	11 30
Michigan.....	11.2	47 27	11.6	2 47	3 72	11.8	4 94	10 94
Wisconsin.....	11.1	38 00	13.2	2 53	3 86	10.8	4 62	10 83
Minnesota.....	11.6	36 00	14.4	2 67	3 94	11.3	6 61	13 86
Iowa.....	11	31 35	12.3	2 25	3 25	11.7	3 95	8 38
Kansas.....	11.4	32 11	13.1	2 44	3 56	13.4	6 30	13 33
Nebraska.....	11.2	34 43	13.2	2 68	3 93	13.6	6 58	12 44
Colorado.....	13.6	45 83	11.2	3 10	4 70	11.5	21 67	38 34
Utah.....	11	33 60	10.8	3 40	5 60	8.8	12 60	36 25
New Mexico { Mexican.....	.....	30 00	.....	87	2 25	.....	4 00	11 25
{ American.....	.....	40 00	.....	1 50	3 00	.....	6 00	20 00
California.....	11	36 66	11.4	2 08	3 08	14	5 00	9 20

METEOROLOGY.

[Compiled in the Department of Agriculture from reports made by observers for the Smithsonian Institution.]

FEBRUARY, 1867.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature of the month, and the amount of rain and melted snow, (in inches and tenths,) for February, 1867, at the following places and by the observers named. Daily observations were made at 7 o'clock a. m. and 2 and 9 p. m.

[illegible]

Table showing the range of the thermometer, &c., for February—Continued.

Stations, &c.	County.	Observers' names.	Date.	Max. ther.	Date.	Min. ther.	Mean ther.	Rain or melted snow.
MASSACHUSETTS.								
Kingston	Plymouth	G. S. Newcomb	14	60	11	6	33.1	5.87
Topsfield	Essex	S. A. Merriam	14	58	11	14	35.1	3.80
Lawrence	do	John Fallon	14	53	11	5	.....	4.19
Georgetown	do	Henry M. Nelson .....	.....	.....	.....	.....	.....	.....
Newbury	do	John H. Caldwell	14	56	11	5	31.5	.....
Milton	Norfolk	Rev. A. K. Teele	13	53	11	8	31.7	.....
North Billerica	Middlesex	Rev. E. Nason	14	56	11	5	32.4	.....
West Newton	do	John H. Bixby	14	59	11	4	34.8	4.34
New Bedford	Bristol	Samuel Rodman	14	57	11	10	35.0	4.97
Do	do	Edward T. Tucker	14	60	11	7	35.4	5.83
Worcester	Worcester	Joseph Draper, M.D.	14	53	10, 11	9	32.8	4.42
Mendon	do	J. G. Metcalf, M. D.	14	51	11	4	31.5	.....
Lunenburg	do	G. A. Cunningham	14	55	11	1	30.5	.....
Amherst	Hampshire	Prof. E. S. Snell	14	50	11	8	31.2	3.65
Richmond	Berkshire	Wm. Bacon	13	52	10	10	31.1	3.75
Williams College	do	Prof. A. Hopkins	13	50	10	2	28.8	2.35
Averages .....	.....	.....	.....	.....	.....	.....	32.5	4.32
RHODE ISLAND.								
Newport	Newport	Wm. H. Crandall	8, 19	50	11	12	33.8	5.58
CONNECTICUT.								
Pomfret	Windham	Rev. D. Hunt	14	52	10	6	30.8	5.25
Columbia	Tolland	Wm. H. Yeomans	8, 9, 13	52	10	8	34.4	.....
Middletown	Middlesex	Prof. J. & A. Johnston	14	58	10, 11	12	34.8	4.34
Groton	New London	Rev. E. Dewhurst	14	54	11	14	35.2	4.90
Averages .....	.....	.....	.....	.....	.....	.....	33.8	4.83
NEW YORK.								
Moriches	Suffolk	E. A. Smith & daugh's	14	54	11	14	38.8	7.71
South Hartford	Washington	G. M. Ingalsbe	13	52	11	2	30.5	2.85
Germantown	Columbia	Rev. S. W. Roe	1, 14	49	11	10	33.6	4.20
Garrison's	Putnam	Thomas B. Arden	14	55	10	11	.....	5.44
Throg's Neck	Westchester	Miss E. Morris	17	53	10, 11	14	35.4	.....
Deaf & Dumb Inst.	New York	Prof. O. W. Morris	14	53	10, 11	15	35.6	5.50
Columbia College	do	Rev. Chas. A. Joy	14	51	11	15	34.6	3.54
St. Xavier's College	do	Rev. Jno. M. Aubier	14	55	11	15	37.2	2.61
Flatbush	Kings	Eli T. Mack	17	57	11	13	36.3	1.74
Newburg	Orange	Jas. H. Gardiner	1, 3, 4	50	23	16	35.2	3.39
Gouverneur	St. Lawrence	Cyrus H. Russell	13	50	10	— 2	24.7	2.62
North Hammond	do	C. A. Wooster	13	46	26	— 5	21.6	4.52
South Trenton	Oneida	Storrs Barrows	13	50	10	0	29.2	6.49
Cazenovia	Madison	Prof. Wm. Soule	28	47	11	6	29.6	6.10
Oneida	do	S. Spooner, M. D.	13	52	10	8	31.1	1.10
Houseville	Lewis	Walter D. Yale	9	54	10	1	27.3	3.66
Depauville	Jefferson	Henry Haas	8	48	10	4	26.4	3.74
Oswego	Oswego	Wm. S. Malcolm	13	48	10	7	30.0	3.33
Palermo	do	E. B. Bartlett .....	.....	.....	.....	.....	.....	.....
Baldwinsville	Onondaga	John Bowman	13	45	11	9	29.3	.....
Skaneateles	do	W. M. Beauchamp	28	50	11	9	31.3	.....
Nichols	Tioga	Robert Howell	28	56	11	7	31.4	.....

Table showing the range of the thermometer, &c., for February—Continued.

Stations, &c.	County.	Observers' names.	Date.	Max. ther.	Date.	Min. ther.	Mean ther.	Rain or melted snow.
WEST VIRGINIA.								
Cabell Court-house..	Cabell.....	C. L. Roffe.....	16	64	10	6	42.2	6.10
Grafton	Taylor.....	Dr. W. H. Sharp ...	18	62	10, 11	5	42.2	7.00
Averages.....							42.2	6.05
NORTH CAROLINA.								
Goldsboro'.....	Wayne.....	E. W. Adams, A. M.	24	85	11	21	53.3	0.62
Oxford	Granville.....	J. H. Mills.....	24	73	11	19	46.8	3.30
Raleigh	Wake	Rev. F. P. Brewer..	24	79	11	17	48.4	2.44
Statesville.....	Iredell	Thos. A. Allison	15, 20	70	11	12	44.7	3.00
Albemarle.....	Stanley	F. J. Kron.....	15, 20	77	10, 11	16	48.5	2.83
Averages.....							48.3	2.44
SOUTH CAROLINA.								
Aiken.....	Barnwell.....	Rev. Jno. H. Cornish	24, 26	78	10	22	54.7	2.84
GEORGIA.								
Atlanta.....	Fulton.....	Frederick Deckner..	25	81	10	11	49.2	1.47
ALABAMA.								
Prairie Bluff.....	Wilcox.....	William Henderson..	25	82	10	25	58.8	.....
Moulton.....	Lawrence	Thomas M. Peters..	24	72	10	19	51.9	1.09
Bolivar.....	Baldwin.....	W. J. Van Kirk....	24	76	10	27	56.0	1.15
Averages.....							55.5	1.14
FLORIDA.								
Fernandina.....	Nassau.....	H. M. Corey.....	21, 26	79	10	27	56.7	.....
Gordon.....	Alachua.....	H. B. Scott.....	20, 26	80	10	29	62.2	.....
Jacksonville.....	Duval.....	A. S. Baldwin, M. D.	25	86	10	32	62.6	4.95
Averages.....							60.5	4.95
TEXAS.								
Austin	Travis	J. Van Nostrand....	3	84	10	25	58.4	0.72
ARKANSAS.								
Fort Smith	Sebastian.....	Rev. Frs. Springer..	13, 23, 28	72	9	17	45.5	.....
TENNESSEE.								
Tusculum College ..	Greene.....	S. S. & W. S. Doak.	15	71	10	12	44.5	.....
Lookout Mountain..	Hamilton.....	Edw. F. Williams...	25	73	9	11	49.2	.....
Clarksville	Montgomery ..	Pf. Wm. M. Stewart	15	69	10	— 4	45.3	8.99
Averages.....							46.3	8.99
KENTUCKY.								
Louisville	Jefferson.....	Mrs. L. Young	18	63	10	— 11	42.7	8.90
Chilesburg	Fayette.....	Dr. S. D. Martin....	15	66	10	— 2	42.2	9.60
Danville	Boyle.....	O. Beatty	18, 23	65	10	— 2	42.4	7.96
Averages.....							42.4	8.82
OHIO.								
New Lisbon	Columbiana	J. F. Benner.....	28	60	10	— 1	35.6	2.70
East Fairfield.....	do	S. B. McMillan	18	53	10, 11	4	34.4	2.43
Steubenville.....	Jefferson.....	Joseph B. Doyle....	16	55	10	5	39.0	.....
Martin's Ferry.....	Belmont.....	Chas. R. Shreve....	28	58	11	0	36.9

Table showing the range of the thermometer, &c., for February—Continued.

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Table showing the range of the thermometer, &c., for February—Continued.

Stations, &c.	County.	Observers' names.	Date.	Max. ther.	Date.	Min. ther.	Mean. ther.	Rain or melted snow.
ILLINOIS.								
Chicago	Cook	Samuel Brookes	28	58	10	—17	30.4	In.
Do	do	J. G. Langguth, jr.	28	57	10	— 6	32.0	2.23
Evanston	do	Fred. J. Huse	13	45	10	—13	.....	.....
Riley	McHenry	E. Babcock	28	53	10	—24	24.3	3.94
Golconda	Pope	W. V. Eldredge	12	71	10	0	43.9	6.20
Aurora	Kane	A. Spaulding	28	51	10	—20	26.5	3.30
Ottawa	La Salle	Mrs. E. H. Merwin	28	62	9	— 5	32.2	4.00
Winnebago	Winnebago	J. W. & Miss Tolman	28	49	10	—22	23.6	2.83
Dixon	Lee	Joseph T. Little	28	60	10	—18	26.2	.....
Magnolia	Putnam	Henry K. Smith	28	73	10	—13	29.0	4.08
Rochelle	Ogle	Daniel Carey	28	54	10	—20	27.0	.....
Wyanaet	Bureau	E. S. & Miss Phelps	28	64	9, 10	—10	29.5	2.53
Tiskilwa	do	Verry Aldrich	28	58	10	— 9	23.9	.....
Elmira	Stark	O. A. Blanchard	28	60	9	—12	30.0	2.20
Peoria	Peoria	Frederick Brendel	28	59	10	— 7	31.9	2.88
Springfield	Sangamon	G. M. Brinkerhoff	13	54	10	— 3	32.4	.....
Loam	do	Timothy Dudley	13	61	10	— 6	33.3	5.00
Waterloo	Monroe	H. Künster	15	64	10	— 3	34.9	.....
Dubois	Washington	William C. Spencer	15	62	10	0	37.2	6.27
Galesburg	Knox	Pf. W. Livingston	28	62	10	—11	29.2	2.56
Manchester	Scott	Dr. J. & C. W. Grant	27	61	9	— 4	34.8	6.34
Mount Sterling	Brown	Rev. A. Duncan	28	62	9	— 8	33.9	.....
Andalusia	Rock Island	E. H. Bowman, M. D.	28	62	10	—10	30.6	.....
Augusta	Hancock	S. B. Mead, M. D.	28	64	9	— 7	33.2	2.53
Averages							30.9	3.79
WISCONSIN.								
Manitowoc	Manitowoc	Jacob Lüps	11	41	10	—10	26.2	1.75
Plymouth	Sheboygan	G. Moeller	28	50	10	—15	25.0	1.80
Milwaukee	Milwaukee	I. A. Lapham, LL.D.	7	47	10	—11	27.4	2.13
Do	do	Carl Winkler, M. D.	27	48	10	—12	28.4	2.23
Delavan	Walworth	Leveus Eddy	28	50	10	—18	24.7	2.49
Waupacca	Waupacca	H. C. Mead	7, 27	50	9	—10	24.7	.....
Beloit	Rock	H. D. Porter	28	44	10	—16	23.9	3.80
Baraboo	Sauk	M. C. Waite	28	52	10	—12	26.8	4.44
Bayfield	Bayfield	Andrew Tate	5	42	10	—20	17.5	2.10
Averages							25.0	2.59
MINNESOTA.								
Beaver Bay	Lake	C. Wieland	4	36	10	—28	12.5	0.00
Afton	Washington	Dr. and Mrs. B. F. Babcock	27	44	10	—23	15.2	.....
St. Paul	Ramsey	Rev. A. B. Paterson	7, 27, 28	41	10	—24	16.2	1.12
Minneapolis	Hennepin	Wm. Cheney	7, 27	44	24	—30	14.1	1.03
Sibley	Sibley	C. E. and C. W. Woodbury	27	43	9	—31	13.4	0.70
New Ulm	Brown	Charles Roos	12	43	9	—20	15.3	1.28
Averages							14.5	0.83
IOWA.								
Lyons	Clinton	A. T. Hudson	28	54	10	—20	24.9	3.02
Davenport	Scott	Sydney Smith	28	53	9	—13	26.1	5.77

Table showing the range of the thermometer, &c., for February—Continued.

Stations, &c.	County.	Observers' names.	Date.	Max. ther.	Date.	Min. ther.	Mean ther.	Rain or melted snow.
IOWA—Continued.								
Dubuque.....	Dubuque.....	Asa Horr, M. D....	28	52	9	—12	25.1	In. 4.45
Muscataine.....	Muscataine.....	J. P. Walton.....	28	57	10	—14	25.5	3.62
Atalissa.....	do.....	B. Carpenter.....	28	53	9, 10	—9	25.5	3.25
Monticello.....	Jones.....	M. M. Moulton.....	28	50	10	—15	28.8	3.46
Fort Madison.....	Lee.....	Daniel McCready.....	12, 28	59	9, 10	—11	30.8	3.08
Guttenburg.....	Clayton.....	Jas. P. Dickerson.....	7, 27, 28	52	10	—24	22.3	.....
Ceres.....	do.....	J. M. Hagensick.....	28	53	9	—11	24.8	.....
Mount Vernon.....	Linn.....	Prof. A. Collins.....	28	60	10	—18	24.4	.....
Iowa City.....	Johnson.....	Prof. T. S. Parvin.....	28	68	10	—18	26.3	7.46
Independence.....	Buchanan.....	Mrs. D. B. Wheaton.....	28	54	10	—23	20.8	3.60
Do.....	do.....	D. S. Deering.....	28	50	9	—18	23.3	.....
Waterloo.....	Black Hawk.....	T. Steed.....	17, 28	44	9	—14	22.7	.....
Iowa Falls.....	Hardin.....	N. Townsend.....	7	48	9	—17	21.0	5.99
Algona.....	Kossuth.....	Philip Dorweiler.....	12, 27, 28	40	9	—26	14.7	.....
Fontanelle.....	Adair.....	A. F. Bryant.....	27	52	9	—16	24.4	3.30
Harris Grove.....	Harrison.....	Jacob F. Stern.....	27, 28	48	9	—16	23.4	3.80
Fort Dodge.....	Webster.....	C. N. Jorgensen.....	27	47	9	—19	20.5	.....
Averages.....	.....	.....	.....	.....	.....	.....	24.0	4.23
MISSOURI.								
St. Louis University.	St. Louis.....	Rev. F. H. Stuntebeck	13	67	10	7	40.2	3.43
Allenton.....	do.....	A. Fendler.....	13	72	10	—1	38.1	3.48
Union.....	Franklin.....	Miss Belle Moore.....	13	67	9	1	38.0	2.18
Canton.....	Lewis.....	George P. Ray.....	26	65	9, 10	—8	32.2	3.40
Harrisonville.....	Cass.....	John Christian.....	7, 17	56	9	4	34.7	6.56
Averages.....	.....	.....	.....	.....	.....	.....	36.6	3.81
KANSAS.								
Leavenworth.....	Leavenworth.....	J. Stayman, M. D....	28	64	9	—2	32.5	3.46
Olatha.....	Johnson.....	W. Beckwith.....	28	64	9, 21	0	33.3	3.40
Atchison.....	Atchison.....	Dr. H. B. & Miss Horn	26	66	9, 21	—3	31.2	12.10
State Agr. College..	Riley.....	Prof. B. F. Mudge.....	7, 27	57	21	—2	32.3	2.01
Council Grove.....	Morris.....	A. Woodworth, M. D..	28	59	21	—3	33.7	5.50
LeRoy.....	Coffey.....	J. G. Shoemaker.....	7, 17, 28	62	21	1	36.5	3.18
Averages.....	.....	.....	.....	.....	.....	.....	33.3	4.94
NEBRASKA.								
Bellevue.....	Sarpy.....	Rev. Wm. Hamilton.	27	53	21	—7	26.7	2.44
Glendale.....	Cass.....	Dr. and Miss Child..	27	52	9, 21	—10	22.9	2.70
Averages.....	.....	.....	.....	.....	.....	.....	24.8	2.57
UTAH TERRITORY.								
Gt. Salt Lake City..	Great Salt Lake.	W. W. Phelps.....	27	55	7, 9, 24	15	32.9	1.62

NOTES OF THE WEATHER.—FEBRUARY, 1867.

FROM THE SMITHSONIAN INSTITUTION.

Gardiner, Maine.—The mean temperature of February was 44° above the average for thirty-one years; the amount of rain and melted snow was 1.15 inches above the average for twenty-nine years.

Steuben, Maine.—February 10.—The freshet to-day was the highest there has been for a number of years; sleighing broke up.

Cornish, Maine.—The temperature of the month was 8.45° above the average of February for the last thirty-five years.

Standish, Maine.—February 7.—The sleighing to-day is the best there has been this winter. 24th.—Good sleighing this morning.

Lee, Maine.—February 28.—Snow very light on account of rain; only two inches of snow in open fields; ice and snow enough to make good sleighing.

Stratford, N. H.—February 28.—Only ten and a half inches of snow fell during the month, not enough for lumbering business. Some ten days during the month wheel carriages were in use, which is unusual in February, or even March.

Shelburne, N. H.—February 13.—Ground thawed one inch.

Claremont, N. H.—February 8 to 10.—A heavy rain-storm which carried off the remaining snow and cleared the ice out of the smaller streams and rivers. 28th.—A very bad month for teaming.

Barnet, Vermont.—February 28.—The ground is frozen very deep, there not having been snow enough to protect it from freezing; the snow melts away nearly as fast as it comes. 10th.—There is now but very little on the ground. There have been but a few days this winter that a sleigh could be used, which is unusual here; the Connecticut river is still frozen over, but it is unsafe crossing on the ice with heavy loads.

Brandon, Vermont.—No good sleighing this month.

Randolph, Vermont.—February 28.—There is very little snow in open fields; sleighing is gone on most roads; the same was the case last year at this time.

Kingston, Mass.—February 10.—There was a very destructive freshet to-day, caused by a heavy rain last night and the great quantity of melting snow.

Richmond, Mass.—February 2.—Thunder shower from 11 to 12 p. m., attended by heavy reports and sharp lightning.

Williamstown, Mass.—February 3.—Heavy thunderstorm at midnight last night.

Lunenburg, Mass.—This February was the mildest since 1851. A thaw began on the 1st and continued until the 10th, which carried off most of the large body of snow. The travelling has been very bad most of the month.

New Bedford, Mass.—February 11.—Ice broken up north of the bridge and driven out of the river. 20th to 22d.—The fall of snow is judged to be about equal to that of the great storm of last month. 28th.—Very little frost remains in the ground, and the snow is very much reduced. The sleighing of the late storm lasted but two or three days, and was never very good.

Newport, R. I.—February 20, 9 a. m., to 22d, 4 a. m., sixteen inches of snow fell, which is more than had fallen before during the winter.

Columbia, Conn.—February 20 to 22.—Twelve inches of snow fell.

Pomfret, Conn.—February 8 and 9.—Great flood and damage by it. 28th.—This has been the warmest February since 1857; the mean temperature was 4.68° above the average for a number of years.

Groton, Conn.—February 1.—Lightning in the south this evening. River clear of ice at this place. 24th.—Lightning at the southeast this evening.

Buffalo, N. Y.—February 14.—Sleighing ended, having lasted fourteen days. 27st.—Three and a half inches of snow fell yesterday and to-day; sleighing

again. 28th.—The month was five degrees warmer than the mean of nine years. Snow, except drifts, disappeared on the 23d. No frost in the ground during the winter; good sleighing sixty-seven days of the winter.

Flatbush, N. Y.—February 2.—Thunder shower at night.

Skaneateles, N. Y.—February 2.—Thunder and lightning, sharp and blue, in the south and east from 9½ to 10 p. m. 10th, ten inches of snow fell. 20th to 22d, eleven inches of snow.

New York, N. Y.—February 2.—Thunder shower at 11.20 p. m.; very heavy thunder and vivid lightning, almost white, twice at least; the thunder passed away rapidly to the east. 9th.—Rain commenced falling at 6 p. m., accompanied with only one single flash of lightning, followed by a hard clap of thunder. Rain continued till after midnight, when the temperature suddenly changed from about 40° to below freezing point. 19th to 20th, eight inches of snow fell.

Newburg, N. Y.—February 2.—Sheet lightning at 9 p. m., and thunder in the night.

Rochester, N. Y.—The temperature of February was four degrees above the general average for the month. 10th.—A storm attended by a strong gale from the northwest during the night. 14th.—A freshet in the Genesee; ice went out at evening.

Depauville, N. Y.—February 28.—The sleighing, though rather poor now, was good through all the month, and has lasted since December 11—in all, eighty days. Snow gone in all exposed places.

Moriches, N. Y.—February 5.—The ice on the ponds averages 10½ inches thick. The frost in the ground in some places fifteen inches. 19th to 22d.—On measuring the snow after it had finished falling, and when it was well packed by its dampness, the depth was found to be seventeen and a half inches. 28th.—The snow of the 19th and 22d has not yet all disappeared.

Theresa, N. Y.—February 28.—The ground has not been frozen during the winter; the greatest depth of snow at any time was about forty inches.

Mount Holly, N. J.—February 2.—Very heavy thunder and very vivid lightning about 8 p. m. 4th.—Heavy thunder and lightning about 10 p. m. from southwest. 9th.—Heavy rain, with distant thunder and lightning, about 5 p. m.

Burlington, N. J.—February 20.—Thunder shower at 7 p. m., continuing about twenty minutes; very brilliant diffuse lightning, and heavy but distant thunder. 9th.—A hard shower about 5½ p. m., with lightning and thunder. 14th.—The ice in the Delaware river at Burlington broke up. 20th and 21st.—Seven inches of snow fell, being the deepest snow of the winter to fall at one time.

Newark, N. J.—The mean temperature of the month was five degrees above the average of February in the preceding twenty-three years; the amount of rain and melted snow was more than in any February during the same period except in 1847. On the 11th the barometer was higher than at any time since observations have been taken, except on the 8th of January, 1866.

Greenwich, N. J.—February 9.—Heavy reverberating thunder this afternoon, shaking and rattling doors and windows. 28th.—The ground was not entirely free from snow from the 30th of December to the 24th of February.

Fallsington, Penn.—February 11.—The barometer to-day was the highest that is recollected, with perhaps one exception. Ice broke up in the Delaware river the second time. 28th.—The past February is supposed to have been the mildest since 1828.

Harrisburg, Penn.—February 14.—Ice on the Susquehanna river broke up.

Philadelphia, Penn.—February 2.—Sharp lightning in the evening. 6th.—The Delaware river opened to navigation, after being closed with ice for about three weeks. 9th.—A very heavy rain; thunder and lightning in the night.

11th.—At 10 a. m. the barometer, reduced to 32°, indicated 30.970 inches, which is more than two-tenths of an inch higher than before observed during a period of sixteen years.

Grampian Hills, Penn.—February 28.—The snow drifts have been greater and of longer continuance than usual. Many of the lanes are yet blocked up, and many of them have not been passable since the 16th of January. The first drifting was on the 27th of December; from that time to the present a few of the roads have been shut by snow, but it is now fast going off.

Emmitsburg, Maryland.—February 2.—From 6½ p. m. until 9 p. m. quite continued lightning accompanied with thunder. 4th.—Lightning at 9 p. m. 9th.—At 10 p. m. wind blowing a gale all night and up to 11 a. m. of the 10th. 19th.—Commenced snowing and continued until 5 a. m. on the 21st; began again at 11 a. m. and continued until 5 p. m.; depth, twelve inches.

Woodlawn, Maryland.—February 2.—Distant lightning from 6 to 9½ p. m., with thunder. 19th.—Snow gone except in roads and fence rows. 20th and 21st, snow fell to the depth of seven and a half inches on a level, but was blown in drifts in many places two feet deep.

Romney, West Virginia.—February 20.—Snow five inches deep and very high water.

Grafton, West Virginia.—Heavy rain on the 19th and 20th. Thunder storm on the 21st at 11½ a. m., followed by hail. One inch of snow on the 22d.

Statesville, N. C.—February 19.—Misty all day. 20th, misty till 10 a. m.

Raleigh, N. C.—February 2.—Clear in forenoon; shower in evening, with distant lightning. 9th.—Thunder shower in the afternoon. No rain on or near the 19th.

Goldsboro', N. C.—No snow during the month, and rain only on the 9th and 28th.

[No snow in February at any station in North Carolina from which registers have been received, except a little at Statesville on the 9th, nor in any State farther south.]

Attaway Hill, N. C.—February 2.—Several thunder storms from morning until night. 9th, at 1 p. m. high wind, rain, and thunder in the south. 15th, yellow crocus, alder, and hazel in bloom. 26th, towards evening, thunder in the far south.

Aiken, S. C.—February 22.—Wild plums in bloom generally; first peach blossoms. 26th, peach trees blooming generally.

Wilkinsville, S. C.—February 2.—Rain in the afternoon with heavy thunder. 4th.—Thunder from 9 to 11 a. m. 9th.—Rain from 9 a. m. to 2 p. m.; at 3 p. m. a gale rose suddenly from the northwest and continued about three hours. 19th, rain from 10½ to 11¾ a. m. 21st, dense fog falling from 6½ to 9 a. m.; several peals of thunder at 7 a. m. 28th.—The month was warm; cloudiness unusually great—only one clear day; the amount of rain small. The buds of peach trees are much swollen, and nearly ready to come out.

Atlanta, Georgia.—February 24.—Plum trees in full bloom. 28th, first peach tree blossoms.

Jacksonville, Florida.—February 2.—Thunder-storm.

Austin, Texas.—February 3.—At 8.45 p. m. a violent wind from the northwest. 10th, frost. 14th, small rise in the Colorado. 28th.—No steady rain fell till the night of the 27th.

Chilesburg, Kentucky.—February 2.—Rain and thunder last night, and distant thunder this morning with a shower of rain. 8th and 9th, six inches of snow fell. 13th, snow all gone. 10th, peaches all killed to-day in the bud. Mean temperature of the day 63°. 15th.—Mean temperature of this day 61°. 19th and 20th, steady rain. 21st, hail and a little snow.

Kelley's Island, Ohio.—Five inches of snow, very moist and heavy, fell on the

5th, and six inches, also very wet, on the 20th and 21st. Total fall of snow during the month, fourteen and a half inches.

Urbana, Ohio.—February 2.—Ground frozen seven inches in open exposed places. 13th, snow off the ground, having covered it since December 24th. Ice on ponds thirteen inches thick. 20th and 21st, four and three-quarter inches of snow. 23d, snow off. 28th, the mean temperature of the month was 43° above the mean of February for the past fifteen years.

Kenton, Ohio.—February 27.—The ground was frozen in open places to the depth of twelve to fourteen inches, and in the roads from six to eight inches. The frost has been all out of the ground two days. 28th.—The river opened on the 16th, and the highest water is to-day.

North Fairfield, Ohio.—February 21.—The hardest snow-storm of the winter; three inches of snow fell in an hour from $7\frac{1}{4}$ to $8\frac{1}{4}$ a. m. Eight and a half inches in all from the 19th to the 21st.

Litchfield, Michigan.—February 15 and 16.—Very heavy rain, and ten or twelve inches of snow on the ground at one time. Many bridges on the St. Joseph river were swept away.

Kalamazoo, Michigan.—February 28.—The ground has not frozen at all in the woods or stubble-fields.

Columbia, Indiana.—February 3 and 4.—Snowed very fast; the snow was so heavy as to weigh down thirty-foot trees to the ground.

Muncie, Indiana.—February 28.—During the winter just closed there were thirty and three-fourths inches of snow, exceeding any previous winter for many years.

Veay, Indiana.—February 9.—A sudden change of temperature occurred last night. At 9 p. m. the thermometer was 50° , with indications of rain; at 5 this morning 23° , and snowing briskly from the northeast, causing drifts four feet deep. 18th.—The Ohio river is rising at the rate of two inches an hour, and is in many places over the banks; all the bottom lands are submerged. 26th, first crocus in bloom.

Rensselaer, Indiana.—February 15.—Thunder and lightning in the evening. 20th, very heavy sleet, which continued for two days; trees were bowed down to the ground.

Aurora, Indiana.—February 2.—The ice was broken and running out of the small streams emptying into the Ohio river. 15th, frost disappeared from the ground. 21st, the Ohio river reached its height this evening. All the bottom lands were inundated; there was about fifty-four feet of water in the channel.

Manchester, Illinois.—February 1.—Distant thunder about 5 p. m. 8th, distant thunder at 4 p. m. 15th, distant thunder during the day.

Chicago, Illinois.—February 15.—The Chicago river clear from ice about half a mile from the lake inwards. 21st, the south branch of the Chicago river all free of ice.

Aurora, Illinois.—February 14.—The river was the highest it has been for seven years; the island opposite the city was overflowed to the depth of one foot; it has been overflowed but once before for twenty years. 28th, the snow has mostly disappeared; only a little remains where there were large drifts. There has been more good sleighing during the month than in any February for a number of years.

Peoria, Illinois.—February 15.—Thunder-showers; thunder heard twice.

Waterloo, Illinois.—February 1.—Rain, with lightning and thunder, from $5\frac{1}{2}$ to 9 p. m., then changed to snow. 15th, rain all day, with thunder and lightning in the afternoon.

Ottawa, Illinois.—February 14.—The Illinois river broke up to-day; an unusually heavy freshet prevailing, carrying away bridges, barns, fences, &c. 19 h.—Five inches of snow fell to-day.

Mount Sterling, Illinois.—February 28.—The ground has been frozen on the

north side of buildings to the depth of three and a half feet; the general depth was about a foot and a half. The frost is not yet out of the ground except in some small spots exposed all day to the sun.

Loami, Illinois.—The greatest depth of frost in the ground was ten inches on the 10th.

Riley, Illinois.—The temperature of February was 2.10 degrees higher than the mean of the month for thirteen years, and the amount of rain was two and one-third inches more than the mean of February for twelve years.

Harrisonville, Missouri.—February 13.—All streams overflowing, and all the lodged ice carried off. In some localities the ground is not frozen more than eight inches, but in others from twelve to fifteen inches.

St. Louis, Missouri.—February 1.—Rain began falling a little before 6 p. m.; about ten minutes after 6 there was a very vivid flash of lightning and a long roll of thunder in the west.

Allenton, Missouri.—Thunder on the 1st, 15th, and 20th; on the 23d the temperature fell 43 degrees in ten hours—from 11 a. m. to 9 p. m.

Manitowoc, Wisconsin.—February 27.—The first steamboat arrived from Chicago.

Plymouth, Wisconsin.—February 28.—Snow pretty nearly all gone, but ground frozen yet. The only fall of snow this month deep enough to measure was one inch on the 4th.

Baraboo, Wisconsin.—February 15.—Hail the size of robin's eggs fell from 4 p. m. to 4.20, leaving the ground covered and white, after which rain set in and continued with heavy thunder and vivid flash lightning till 8 p. m. 16th, snow from 7.10 a. m. till 11 a. m., three-quarters of an inch.

Saint Paul, Minnesota.—No rain during the month, except a drizzle on the 12th, and some with the snow and hail on the 15th. Snow on the 4th, 10th, 15th, and 19th to 22d, eight inches in all.

New Ulm, Minnesota.—Four snows during the month; no rain except drizzling a little.

Minneapolis, Minnesota.—Fall of snow for the month ten and a half inches; good sleighing through the entire month. A thaw on the last two days, with dense fog and a mist or fine rain on the 28th.

Iowa City, Iowa.—Twenty-seven inches of snow fell during the month. The heaviest fall was twelve inches on the 3d and 4th. Much rain on the 12th, 13th and 15th.

Davenport, Iowa.—Twelve inches of snow during the month, two inches on the 2d and 3d. Heavy rain on the 12th, 13th and 15th.

Fort Madison, Iowa.—February 27.—Depth of ground frozen, three feet.

Fort Dodge, Iowa.—February 15.—Lightning and thunder coming from northwest and going southeast, accompanied with heavy and moderate rain, alternately, mixed with hail.

Algona, Iowa.—February 15.—Snow, sleet and rain from morning till 2 p. m.; lightning and thunder at 9½ a. m., which lasted about an hour. 28th.—About six or eight inches of snow fell during the month, but it could not be measured accurately, on account of the wind blowing it away.

Independence, Iowa.—The fall of snow during the month, was six inches, of which two inches fell on the 3d and 4th, and four inches on the 19th. There was rain on the 12th, 13th, 15th and 27th.

Monticello, Iowa.—February 13.—The ice in the Waquopeta river at this place broke up to-day, the water very high and doing much damage to bridges above this place.

Waterloo, Iowa.—February 14.—The ice broke on Cedar river. 15th, river free of ice.

Le Roy, Kansas.—February 1.—Thunder at a distance in the southwest

at 7 a. m.; at 8 a. m. it passed to the southeast. 4th, Neosho river opened from ice. 13th, all frost disappeared from the ground.

Manhattan, Kansas.—No snow at the beginning of February, except in ravines, and not enough fell during the month to cover the ground. From the 15th to the 20th, the streams were higher than known since the settlement of the State; caused partly by rain and partly by the melting of snow above.

Leavenworth, Kansas.—February 15.—Diffused lightning at 4 a. m., with thunder and rain from northeast. The Missouri river opened, the ice giving way by the river rising. The ice was twelve inches thick. Boats commenced running. 28th.—Less than an inch of snow fell during the month.

Atchison, Kansas.—February 13.—Missouri river clear of ice opposite this city. 14th.—Ice moved in large quantities past the city to-day; ferry-boats commenced making regular trips. 15th. Last night a storm, accompanied by thunder, lightning, rain and hail.

Council Grove, Kansas.—February 5.—Frost out of the ground in the most favorable places. 8th, ground frozen again. 15th, a slight shower at 4 a. m., with a little thunder and lightning. Frost out of the ground again. 16th.—Froze to the depth of two inches last night. 28th, frost out of the ground generally. A trifle of snow fell two or three times during the month, but not enough to whiten the ground.

Bellerue, Nebraska.—February 13.—Small streams high; some bridges injured. 28th, the fall of snow during the month was seven inches.

Glendale, Nebraska.—February 13.—Waters high; small creeks rose six to ten feet. 19th, Platte and Missouri rivers breaking up; on the closed again; breaking up again on the 28th. One and six-tenths inch snow fell during the month.

MONTHLY REPORT

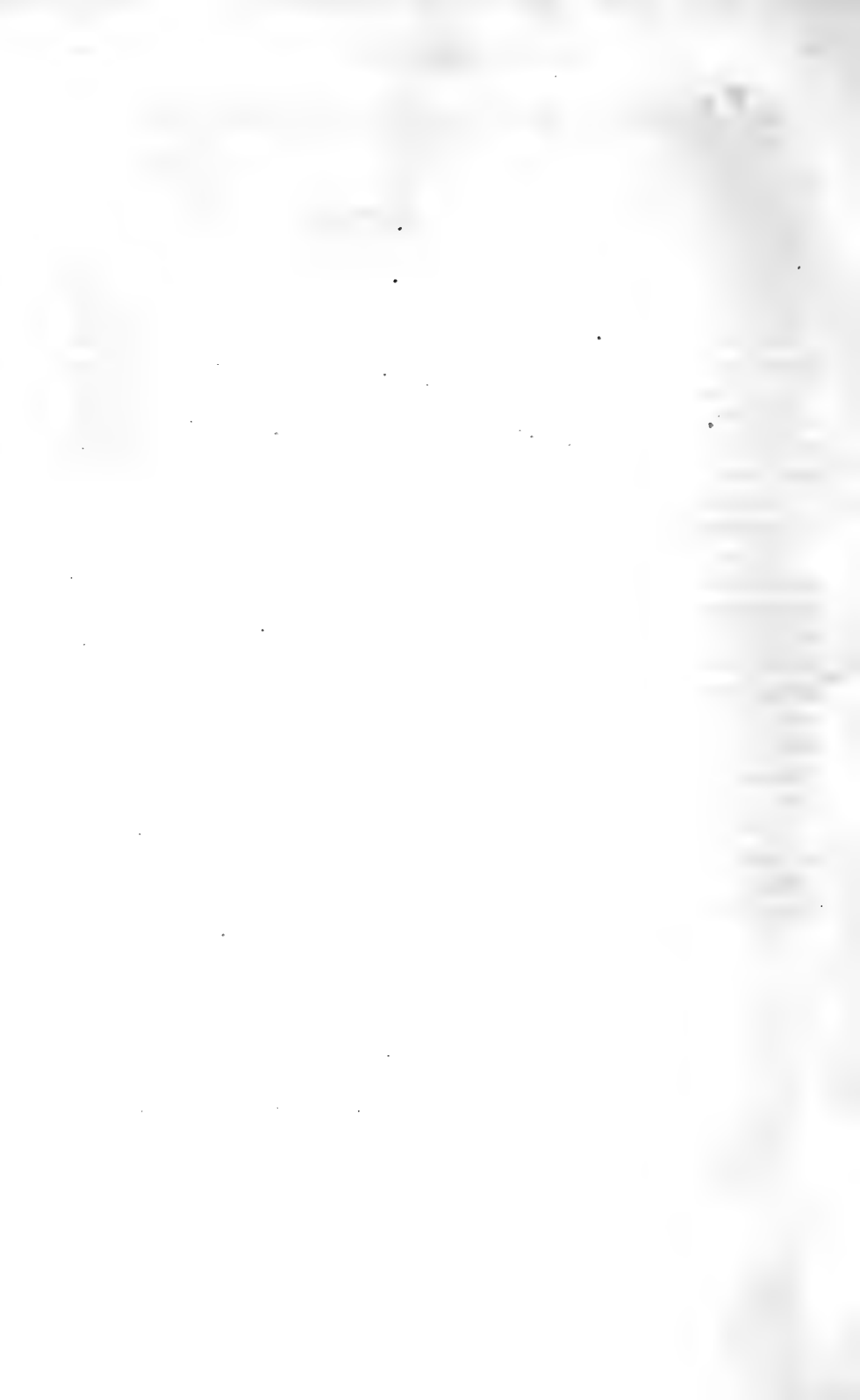
OF

THE AGRICULTURAL DEPARTMENT.

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1867.

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MONTHLY REPORT.

WASHINGTON, *April*, 1867.

The present number of the Monthly Report contains a digest of an immense mass of valuable information, from careful and practical farmers of all sections of the country, relative to the condition of farm stock at the close of the late long and hard winter. It illustrates forcibly the improvidence and cruelty of farmers in neglecting to provide food and shelter for animals in climates where stock can ordinarily support life through the winter without aid from man.

The promising prospect for an unusually heavy crop of wheat continues to be very favorable.

After the preparation of the matter for this Report, and too late for a record of facts obtained, I commissioned J. R. Dodge, the statistician and editor of the Report, to represent the Department at the fair of the New York Wool Growers and Sheep Breeders' Associations at Auburn, New York, deeming the effort of breeders there represented of the highest value to practical agriculture, and adding millions to the value of the wool of the country. Animals bearing a fleece of twenty to thirty pounds of fine wool in the grease, and nineteen to twenty pounds of lustrous long wool, are worthy of the high prices which they command; and breeders of such sheep are worthy of the gratitude and honor of their countrymen.

Interesting tables of crop estimates of the several States, in convenient aggregates, will be found worthy of particular examination.

For all details of such statistics, and a great variety of other valuable matter I refer the reader to the body of the Report.

I. NEWTON, *Com'r.*

CONDITION OF THE FARM STOCK OF THE UNITED STATES.

The increasing magnitude of this interest, and the enhancement of values through judicious crossing and more liberal keeping and skillful management, render important a careful investigation into the condition of the farm stock of the country. The opening spring, when flocks and herds emerge from the severities of winter to depasture sweet and nutritious grasses, is the proper time for such a review. The increase of disease, from want of feed and care, and possibly from deterioration in constitution, by injudicious breeding and management, suggests the urgent necessity of examination into its character, causes, and results. An interest involving a capital of fourteen hundred millions, without reference to investments in lands, buildings, and incidentals, demands the watchful care of public guardians of our national resources.

The following queries were embraced in a circular to correspondents, which was made returnable April 15th :

The correspondents of the statistical division are respectfully requested to answer the following queries, in detail, as fully as may be practicable. The answers, of course, cannot be given in the usual definite mode, by tenths, but an opportunity is afforded for a statement of isolated facts of great importance, in such terms and at such length as may be agreeable to correspondents:

1. Has there been any prevailing disease among cattle in your county during the past year? If so, what disease, and to what extent?

2. Has the Spanish fever prevailed among cattle in your county? If so, when did it appear, what has been the loss, and what method of treatment has been followed?

3. Has the hog cholera prevailed? If so, what has been the loss, and what remedies employed?

4. What diseases have prevailed among sheep, and to what extent?

5. Has any unusual disease prevailed among horses?

6. What proportion of wool remains on hand compared with the whole amount of last year's clip?

7. In what condition have sheep come out of winter quarters?

8. Are Cotswolds, Leicesters, South Downs, or other mutton breeds, more or less abundant than formerly? Please state definite facts, in actual experience, of the cost of keeping, amount of wool, &c., of these breeds, in comparison with Merinoes. No *estimates* are wanted, but actual facts, as full as may be practicable, from individuals who have bred both long and fine wool sheep.

9. What is the comparative condition of winter wheat? of winter rye?

These circulars were sent to all regular correspondents, and the returns were very complete, both in point of numbers and of particular details. Very few cases of omission, even of a single item occurred. The result indicates a generally favorable sanitary condition of farm stock, while it reveals disease and resultant loss, in particular localities, sufficient to excite apprehension and stimulate vigilance in applying that prevention which is always so much safer and cheaper than attempted cure. Small as such percentage of loss may be, the aggregate would astonish the farmers of the country. Cattle have suffered less from disease than any other kind of live stock. Horses stand next to cattle in sanitary condition. Sheep have been attacked by a variety of diseases, including starvation, and the consequent fatality has been considerable. Swine, always more subject to disease than any other farm animals, have been as unhealthy as ever during the past year. The widely prevailing hog cholera has claimed its victims by thousands, and has been scarcely excluded from any section of the country.

DISEASES OF CATTLE.

Exemption from disease has been quite general in the eastern and northwestern States, and few losses from maladies of whatever character are reported; nor has there been any widely prevailing epizootic among the cattle of the west and south. The diseases reported are pleuro-pneumonia, the so-called Spanish fever, abortion, horn-ail, bloody murrain, "blackleg," "distemper," "swelled brisket," and maladies with no name or well-defined symptoms.

Pleuro-pneumonia.—This disease is reported in Newport county, Rhode Island; in Kings county, New York; in Hudson county, New Jersey; and in Bucks county, Pennsylvania. Our correspondent in Newport, Rhode Island, says: "The cattle disease called pleuro-pneumonia has prevailed in this county to a limited extent for the last three or four years, but it has been considered exterminated several times since its first appearance here. From the best information I can get, I think about ten head of cattle have died of the disease in this county the past year, and probably some thirty more have been sick with it, and have recovered so far as to be fatted for beef. I have heard of no new cases for the last four months, and I hope we are now rid of it in this county. To prevent the spread of the disease, we have kept isolated all cattle known to have been exposed to it until danger of contagion was past, by which means it has been kept within narrow limits."

In Baltimore county, Maryland, a prevailing disease is reported, which is called "lung fever." It originated in the vicinity of Baltimore, and has spread considerably. In several dairies, numbering from twenty to eighty cows, heavy losses have occurred; in one, thirty cows; in another, twenty; in others, ten to fifteen cows. Various opinions relative to the disease and its treatment are entertained, with little agreement, except as to its contagiousness and the necessity of isolation. Few symptoms are reported by which to decide how this differs from pleuro-pneumonia, or whether it may be identical with it. The animal refuses food when taken sick, and the milk secretion ceases; the lungs are found to be much decayed.

Abortion.—This disease has prevailed to some extent in the dairy districts of New York, and in Washington county, Vermont; one or two cases in a herd of twenty cows are common, and, in a few instances, half the herd have aborted. Dr. S. J. Parker, of Tompkins county, New York, writes as follows: "Cows which are dried off in October or November, and have their calves knocked in the head before they suck, or are 'deaconed,' as it is called, and cows that are fed on *their own whey*, or have other disgusting or filthy processes to increase their milk, are very apt to abort; and the reason is apparent. The cow nurses her young till near the next birth; she never eats voluntarily her own semiputrid milk or whey; or is 'doctored' or drugged to make more milk or cheese. Rosin, sulphur, nitre, and Spanish fly, and other articles, can hardly be got out of the head of certain farmers. Horses, cows, pigs, and all must have 'a little dose of something' all the time, they think."

Hollow horn.—Several places report the existence of "hollow horn." In Fayette county, Indiana, as a correspondent reports, "it is very common at this season of the year, especially with milch cows, of which one-fifth of the number are affected." The remedy in that quarter, which is vouched for as effectual, (as it certainly is very simple,) "is to make a slit in the end of the tail, insert some black pepper and salt, mixed, then wrap and tie up. It is usual to bore a small hole in the side of the horn; also, to rub turpentine on the head back of the horns."

In Lawrence county, Alabama, the same disease is reported; in Troup and Houston counties, Georgia; in Lorain county, Ohio; and in Whitley county Kentucky.

Various diseases.—In Park county, Colorado, a disease known there as “swelled brisket” has occasioned twenty to thirty deaths.

In Barton county, Georgia, and Jackson and Emmet counties, Iowa, losses from “black leg” are common.

Bloody murrain is prevalent in Harford county, Maryland, where fifteen cases and eleven deaths have occurred; in Gloucester county, Virginia; and in Clay county, Alabama. In Gloucester county, Virginia, it is stated that “four-fifths of those attacked die,” and that “the loss is about ten per cent., one year with another.” The estimate of loss is scarcely credible, if it is meant that a tenth of all the cattle of the county die annually from this cause.

In many places diseases are spoken of under the vague terms “murrain” and “distemper.” In many cases reported, particularly in the south, these words are common. “Murrain” is prevalent in Barton county, Georgia; in Stokes and Lincoln counties, North Carolina. In Towns county, Georgia, “cattle pastured with cattle from the south take the murrain and invariably die, though those brought from the south do well,” (indicating the identity in this case of “murrain” and Spanish fever.) In Caldwell county, North Carolina, “a disease among cattle known as ‘distemper’ proves fatal in nearly all cases,” while in some cases the words “murrain or distemper” are used.

In Tippah county, Mississippi, the “dry murrain” prevails every autumn to some extent.

A correspondent in York county, Virginia, says that “cattle brought into the tide-water region of the southern States are subject to bilious dysentery, which proves fatal in most cases.”

A correspondent in Buchanan county, Iowa, says: “A disease has prevailed among cattle in the southern part of this county during the latter part of the winter and this spring. The animal is taken with weakness in the fore legs, heaviness of the eyes, which are much sunken, then a gurgling sound in the windpipe and discharges at the nose, gradually declining until death. Tar has been used as a remedy. About three per cent. have died in that vicinity. The cattle in other parts of the county have not been affected.”

Dr. G. M. Brown writes of a disease among cattle in Cumberland county, Virginia, which has prevailed at times for twenty years past, under the names, “Carolina distemper,” “cattle plague,” and “bloody murrain.” He is inclined to consider it identical with rinderpest, but, from the description he gives, it is evidently not the cattle plague of Europe, which has never prevailed in this country. When it *does* appear, it will not be twenty years in making itself generally known. He says of it:

“The disease is attended with a great degree of fever, as shown in the case of milch cows by the cow suddenly ceasing to give milk, though the day before suckling her calf and giving the full quantity of milk. Sucking calves have escaped when the mother would die. The bowels at first are said to be constipated, and no cases have been said to be attended with diarrhœa or discharges of blood from the bowels; I presume because the disease has been so speedily fatal. The muscular twitchings and throbbing of the arteries (as I suppose) about the neck and head have been noticed; whether there has been any eruption on the surface, or the mucous membrane of the mouth or nose, has not been detected, or examined for, I apprehend, but the eyes are always affected—red and mattering. In the few cases that have been very imperfectly examined, after death, the contents of the stomach are described to be as dry as a chip, and the kidneys chiefly diseased. There is no doubt in my mind that this disease is similar to the rinderpest of Europe, if not identical with it, having the same symptoms of a malignant, contagious fever, of a typhoid character, and closely resembling the disease of the human system known under various names, as typhus, typhoid, and nervous fevers. Medical treatment appears to have been of little benefit; only in four or five cases (as far as I have had opportunity to inquire) have recoveries occurred,

and these chiefly when they were given up to negroes to do with them as they liked or being turned out to die; in two cases the cattle were exposed to long continued and cold rains, for the season, and recovered. The gentleman who reported the last cases added that, thinking he had learned something from this accidental use of cold water to the surface, the next and only case he has had since, being a favorite cow, he had cold water applied freely and frequently, which was followed by recovery. The negro treatment of the disease was very simple, but is said to be effectual in two cases. The tail of the animal was cut off very near the body, within a few inches, and green corn and apples, and similar things, used to entice the animal to eat. But I should not have troubled you with this tedious detail of description and treatment of this distemper if I had not some facts to make known to you as preventive of this disease, which the people here, who have tried it and known it for years, have as much confidence in as that vaccination will protect them from small-pox. It has been known and practiced for years by many in this county, that the keeping and herding of goats with the cattle gives certain protection against this cattle plague or distemper above described. In all my inquiries, all say they never knew a case of this disease where goats were reared and used among the cattle; and in many instances, after a farmer had lost some of his cattle, he would secure goats afterwards to range with his herd, and never as yet had the disease to return. At Cartersville, a village in this county, and its neighborhood, many years ago, this disease prevailed to the almost entire destruction of the cattle. The people then obtained goats, and for many years they were free from the plague; but in time, by neglect and the boys, the goats were driven off or killed, and this distemper returned, the same and as fatal as ever before."

SPANISH FEVER.

The disease known in a certain belt of country by this appellation, and sometimes as Texas fever, has proved exceedingly fatal, and has excited great apprehension in States in which it has ever raged; and in many cases it has aroused the hot indignation of stock-growers against Texan cattle drovers, who have been threatened with combined armed opposition, and compelled to desist from the prosecution of their trade.

Few observers of this disease are qualified to describe its symptoms with sufficient accuracy to enable one to judge of its precise character. Indeed, it is probable that the most scientific medical men, after careful and skillful examination, might differ widely in their conclusions. Our correspondents have furnished much information of a general character, not at all contradictory in the main facts, but by no means full in description of the symptoms.

It has been assumed by some to be identical with rinderpest. The assumption is utterly erroneous. The Texas cattle, in whose path of migration the local herds receive the subtle infection and sicken and die without remedy, are themselves exempt from outward sign of disease while communicating a deadly poison to others, apparently through the excrementitious matter which they leave in their track. This is by no means a characteristic of rinderpest. In this Spanish fever the infected beast, according to these returns, generally has an appetite and eats regularly during the progress of the disease; in rinderpest, on the contrary, the appetite is irregular, capricious, and then entirely lost. In the former, in some cases if not always, the bowels are open; while in the dreaded cattle disease of Europe constipation is the rule, succeeded in the progress of the disease by dysentery. In the Spanish fever there are discharges from the nose, as the disease progresses, of a greenish matter, which may or may not be similar to the greenish yellow and somewhat dense granular deposit upon the nasal orifices in rinderpest.

The duration of the Spanish fever is variable. It appears to reach a fatal

termination, in some instances, in two or three days; in others, a week; in others still, ten or twelve days.

It is a singular fact not only that the migrating herds improve in condition while disseminating the disease, but that such disease does not prevail, if it even exists, in the localities from which the cattle originate. Yet their bodies must contain the germ of disease, the virulent animal poison which is communicated by their excretions to the pastures upon which their victims feed after them.

The conditions necessary for the development of this poison are found in the latitude of southern Kansas and Missouri, in the more elevated sections of Arkansas, in parts of Tennessee, in southern Kentucky, in North Carolina, and the hill lands of Georgia and South Carolina. It is not reported further north than southern Illinois, and not known in Ohio, Pennsylvania, or Maryland.

A convincing proof that its development is referable in some way to climate is shown by a fact mentioned by a correspondent of its existence in the mountain lands of Georgia, generated by removal scarcely fifty miles away from the low lands.

That it is not produced by travel is evident, else cattle driven from Iowa to Ohio should sometimes show symptoms of it. More conclusive still is the fact that Texas cattle, driven to New Orleans, do not communicate the disease to the cattle of Louisiana. A correspondent mentions a fact which may be regarded as a marked corroboration. Eight hundred Texas cattle were last season driven into Mississippi county, Arkansas, and were scattered through the county without producing disease. This county lies in a latitude sufficiently high to awaken an expectation of a fatal result of such a migration; but it is on the Mississippi river, in a miasmatic region. It is possible that this suggestion covers the reason for the non-development of the disease.

A slip has been received from advance proofs of the *Southern Cultivator* for May, containing a letter from an experienced cattle drover relative to this disease, which shows that Florida cattle, as well as those from Texas, are capable of producing the disease under the proper climatic conditions. The letter is as follows:

ATHENS, GEORGIA, *April*, 1867.

EDITORS SOUTHERN CULTIVATOR: Mr. Isaac Newton, the Commissioner of Agriculture, desires information in regard to the cattle fever, or Spanish fever, as it is generally called. I have been a cattle dealer for 25 or 30 years, and in that time have had many a death among my stock by this disease, and have in consequence taken some notice, meanwhile endeavoring to learn its causes and how it was brought about.

I notice that cattle scarcely ever take the fever if let remain where they were raised, and I am fully convinced it is generally brought on by a change of climate. For instance, you take cattle from the mountain country to the low country and they will take the fever in a short time and die, but their disease will not affect the cattle raised there; but, on the other hand, take cattle raised in what we call a distempered part of our country—that is, the low country—from warm latitudes, up into a colder one, they will themselves improve all the time; but, without being sick themselves, they will spread the fever and kill the cattle in the section of country into which they are taken, till they travel on, or stay or have staid long enough for the fever to leave the system. I have been in the habit of driving cattle from Florida to Virginia, and found my cattle to improve and do well; but after I passed the line of 34 degrees, they began to spread the fever all along the line of travel among the stock raised in that section of the country, till I struck the line of Virginia, which is a distance of about 250 miles, then it ceased, and all went on well. I suppose the reason for its stopping was, that my cattle had been out of the low country long enough to become acclimated. Hence, I think the disease is originated from a change of

climate, either from a colder to a warmer climate, or taking them from a warm climate to a more cool and healthy one. How it is that they carry the disease with them, and give to others without injury to themselves, is a mystery I am not able to solve, and will leave that to be discussed by the bureau of investigation.

Respectfully,

I. WILKERSON.

Mr. White, the editor of the *Cultivator*, indorses Colonel Wilkerson as a man of experience and good judgment, whose statement of facts can be relied on.

From all that has been learned from this correspondence or from other sources, all medication has thus far proved entirely futile.

Without pretending to unravel the mystery of the terrible fatality of this disease, received through an animal that is apparently free from all maladies, we propose to give brief extracts from our correspondence on this subject, that readers may note for themselves the agreements or discrepancies of actual observers.

Texas correspondents are indignant in their comments on the Texas fever. One in Dewitt county says he has been in that State since 1849, and has never known any prevailing disease to exist among cattle there. He says there is sometimes a Spanish fever among horses, but never among cattle.

Another in Collin county says that cattle brought there from the north are subject to such a disease.

A correspondent at Goliad, Texas, deems the disease a myth, and says: "This tale was no doubt started to injure the sale of our cattle; but, strange to say, while our cattle have such terribly fatal diseases in the Indian Territory, Kansas, and Missouri, this pest never follows our stock to New Orleans. No single complaint of this fever has as yet reached us, from the Texas cattle bought low, at an overstocked market, in that city and taken up the river to be fattened and reshipped, as stall-fed western beef. I can see no excuse for these complaints, and can account for them upon no other ground than selfishness."

In Linn county, Kansas, it has been prevalent in summer and fall, but is seldom, if ever, known in winter.

In Butler county, Kansas, one hundred and forty-one cases are reported.

Osage county, Kansas.—"A disease made its appearance at Burlingame, in this county, about the 1st of August last, called by some Spanish fever; by some, dry murrain. Afterwards it prevailed in other parts of the county. It was principally confined to the Santa Fé road, which runs east and west through the county. Not one in twenty recovered. The damage from it could not be less than \$5,000. Blooded stock were more frequently attacked, and rarely recovered. The usual remedies for murrain were tried, but were of no avail. After that medicines were given as experiments, but the cures were so few, if any there were, that nothing certain was established. The first symptoms were a moping and an apparent weakness about the loins. A high fever set in, and the animal kept on foot, eating and drinking as usual, until it laid down to die. Some were packed in wet cloths; some were drenched with salts; to some, sulphur, saltpetre, sweet spirits of nitre, lard, copperas, garlick, poke root, and other medicines, in indefinite quantities, were administered. Let alone was the best remedy. The animal died in about one week after it was attacked. There seemed no difficulty in getting physic to operate; the bowels were generally active and open. After death there seemed to have been a high fever in some locality; sometimes in the stomach, sometimes in the kidneys, sometimes in the lungs. As a general rule the stomach was dried up; the bladder full of red water, but not bloody. The eyes looked as usual, and the fore-quarters seemed strong. I account for the different appearance in different animals from the fact that injurious medicines of different kinds had been given to different animals

which I examined. All this stock had pure water and good grass. The first case that occurred was that of an ox, which belonged to a logging team of seven yoke. This ox, on account of his breachy propensities, was kept at nights in a stable, and watered from a well of pure water. When not at work in the daytime he was staked out to grass with a long rope. About two weeks before he was attacked with this disease a herd of Texas cattle came along and were stopped and fed around him for an hour or more. Soon after the rest of this team were attacked, and all died but one, which escaped the disease. Along the trail of this Texas herd, which left the Santa Fé road at Burlingame, and travelled north, almost every farmer lost stock. Cattle that belonged to Burlingame, and ranged north over this trail, nearly all died, while those which ranged south all escaped, though they were herded at night in the same yards. Another herd of Texas cattle passed through the county eight miles east of Burlingame, in another direction, and they left their trail, whole herds dying where they passed along. People here are unanimously of the opinion that the disease came from Texas. Cattle from the Cherokee country do not bring that disease. Neither do these cattle after they have been wintered here."

Leavenworth county, Kansas.—"Spanish fever was brought in by Texan cattle, but was confined to certain limits, on uninhabited Indian reserves, as the people would not allow any to be pastured around farms in the settlements. It appeared from three to four weeks after the Texas cattle came in, or passed by, among cattle that grazed on the same ground where the Texans had grazed over night, or staid for a greater length of time. It appeared in the latter part of July. The Texans arrived in June. At four different times in seven years this has been the case—always three or four weeks subsequent to the Texan arrivals. Loss, ninety-five per cent. of those attacked. Bleeding, cathartics, stimulants, hydropathy, &c., have been tried by multitudes. I have personally exhausted the whole range of cattle medicines, and lost very largely in 1857, 1858, and 1859, but found no remedy in any direction; in a word, there is none known. All were attacked that were exposed to the cause."

Woodson county, Kansas.—"The Spanish fever broke out in December, and raged until the 1st of January, when the cold weather set in and checked it. In the immediate localities where the Texas cattle crossed the country the losses were heavy. Some farmers lost all they had, and no less than thirty per cent. of the cattle have died. The methods of treatment have been various. I have treated the disease in its incipient stages, and have seen everything tried that ingenuity could devise. Calomel did no good; salts and alkalies all failed; soap I have seen tried with no satisfactory results. Guano, from the goose cot, I believe will frequently effect a cure, given in doses of one quart until a thorough evacuation is produced. This I know to be a sovereign and unfailing remedy for the dry murrain."

Douglas county, Kansas.—"The Spanish fever, or something similar, made its appearance about the first of February among a few cattle that were driven from the south. I think the severity of the winter caused the greatest loss; about one-third of all the cattle brought from the south have died. The only treatment was to give the weaker ones a little more care, and separate them from the stronger ones."

Fort Scott, Bourbon county, Kansas.—"The Spanish fever appeared during the first part of last May, about the time Texas cattle commenced driving, and continued all summer. Texas cattle did not appear to suffer any ill effect from the disease, but fully one-half of the native cattle in the county died with it. No remedy has been found for this disease."

Franklin county, Kansas.—"Within the last ten years we have had the Spanish fever in this county three times, and it is indisputable that in every case cattle from the south had been driven through our county. Yet I have frequently heard those who have resided in Texas say that the disease known

here as Spanish fever is unknown in the section they came from. I think it is generally admitted that it is only when cattle are driven in droves in hot weather that the disease manifests itself. The only steer I saved after being diseased by the Spanish fever was by soaking a large plug of tobacco till it became quite pliable, and then using it by injection. In the course of half an hour, by repeating the process several times, a passage was effected; the steer, in a few weeks, became quite healthy. In the cattle which have died of this fever the manfolds are as hard as a pressed cotton-bale. This, I think probable, is the difficulty to overcome."

Howard county, Missouri.—"There were a few cases of Spanish fever among cattle in this county, immediately on the public roads on which Texas cattle had been driven. No other disease. August was the month in which the above fever occurred. No treatment was instituted, and all died."

Cass county, Missouri.—"The Spanish fever appeared in July and August, after the passage of droves of stock from Texas and Arkansas. Some sections of the county did not suffer; others, through which the travel mainly passed, lost fully five per cent. of their stock. The loss throughout the county is fully two per cent. of the whole number of cattle. Various remedies were tried to save the sick cattle, but nothing found effectual."

Callaway county, Missouri.—"We lost some cattle last summer with the Spanish fever, immediately on the trail of a drove of Texas cattle that passed through our county. Almost every one living on the road where they passed lost more or less if their cattle ran outside or grazed on the same pasture or prairie; but it did not spread from those farms on the road. Almost all that were attacked died. We know of no cure for it."

Christian county, Missouri.—"Spanish fever was introduced into the western part of this county by droves of Texas cattle passing in October. Was very fatal, but did not spread over but a small portion of the county. No remedy applied."

Newton county, Missouri.—"The Spanish fever appeared about the first of July and continued until the first of October. Various remedies have been tried, but none proved effectual. The fever appeared to be caused by Texas cattle passing through the country. Many droves were stopped last summer by the citizens, and not allowed to pass until October. There was no sign of disease among the Texas cattle."

Bates county, Missouri.—"The Spanish fever is the only disease that has prevailed among the cattle in this section of the country. The disease is never seen until from ten days to two weeks after the passing through the country of Spanish cattle, which generally commences about the first of June and continues through the season. The loss in our county for the year 1866 will not fall short of sixteen hundred head. In some cases it killed entire herds. There is no effectual remedy known to the inhabitants of this county."

Chariton county, Missouri.—"The Texas or Spanish fever prevailed to some extent in our county on the road travelled by a drove of Texas cattle through the county, but the disease was not in other parts of the county. The number lost was about sixty. No remedy was discovered that tended to alleviate the disease. Nearly all the cattle attacked died in a short time."

Cedar county, Missouri.—"Spanish fever has prevailed wherever Texas cattle have passed, and attacks our native cattle directly, or soon after feeding on the same ground, in the spring, summer, or fall. It is thought that our cattle would not take the disease in the winter season, but this may only be conjecture, as no large droves have yet been driven here from the south in the winter. The loss is great—say eight-tenths. No remedy or treatment has yet been successful."

Oldham county, Kentucky.—"The Spanish fever was introduced into this county in June last by cattle brought from Texas by parties to sell to grazers.

I have not seen any of the diseased cattle this season. The number that died did not exceed fifty head, as the Texas cattle only passed through one corner of the county. The 24th day of June, 1860, there were driven on my farm, to stay over-night, some fifty head of Texas cattle. Some forty days after they left, about the 18th of August, the disease broke out among my milch cows and heifers and work cattle. I lost fourteen head, worth some seven or eight hundred dollars. At the same time I was grazing a lot of large fat cattle for one of my neighbors—some sixty head; out of the number, eleven head died, valued about the same as my own. This was the first appearance of the disease in this State. I tried all the remedies I could think of. Some of the diseased ones recovered, though I will not say what remedy reached the disease. Work oxen that crossed the road travelled by these cattle took the disease and died. In the last stages of the disease greenish and yellow matter exudes from the nose. The animal will live, in some cases, ten or twelve days after being attacked. This county has not been entirely free from the disease in the last ten years. Almost every farmer has a remedy of his own. I have had the disease in my herd twice; the first time I lost one hundred and fifty—nearly all I had."

Fayette county, Kentucky.—"Last summer my son bought at auction, in Lexington, twenty-four Kentucky raised cattle. Shortly after the purchase five of the cattle were taken sick, four of which died. It was ascertained that these five cattle had been driven along the road over which some Texas cattle had travelled. The former had been given green corn, and the one that eat freely of it recovered. They were all taken sick the same day, and the four died the second and third days after. None of the other cattle were affected, though all were in the same pasture. It is a well-known fact that Kentucky cattle pastured with, or shortly after Texas cattle, or driven along the road after them, will take this fever. It is believed, however, that Kentucky cattle will not take it from native stock. The Texas fever had been very destructive in the neighborhood from which these five cattle were driven to Lexington."

Grundy county, Illinois.—"My opinion in regard to the Spanish fever is, that there is no danger of that disease except where the cattle come in contact with the droves from Texas and the Indian country, more especially the region on the Red river. I lived some time on the route travelled by these droves from Texas to the Missouri river, and in all cases, when the Spanish fever made its appearance, it was when one of these droves had just passed through, and I never heard of a case where the cattle had not been exposed in this way. I never knew the disease to break out spontaneously in a herd of northern cattle; but after exposure it was always more fatal among them than among the Texas cattle; so much so that it was considered quite an object to obtain the Texas cattle in preference to all others for use, in those sections of the country that were peculiarly exposed to the disease by being on or near the route of the Texas droves."

Perry county, Illinois.—"In the southern part of this county Spanish fever appeared in July last, among cattle that were pastured on ground that had been previously occupied by a drove of Texas cattle. The loss was about seventy head. Various remedies were tried, but none of them were effectual. I understood that all the cattle were attacked with the disease that followed the Texas cattle in the pasture, and that all that were attacked died. It appears also that the Texas cattle, while feeding in the pasture, had no appearance of disease."

STARVATION.

In a land where scarcely half the growth of grasses is depastured, it seems little less than deliberate wickedness, and something more than downright inhumanity, that domestic animals should die by thousands of starvation. Because some winters are so mild that the poor cow shivers through them without actual

starvation, whole communities leave their cattle to shift for themselves every winter, until one of such severity as the last takes pity on their misery and mercifully ends it. The loss from actual starvation and exposure the past winter has been extraordinary.

In the mild climate of Texas the loss has been heavy. In Houston county one-tenth of the stock died during the winter from "cold weather and poverty." Other counties made similar reports.

In the Territories similar losses are reported.

In Hall county, Nebraska, one-tenth of the cattle perished during the winter "in consequence of the ground being covered with snow from the middle of December until the first of April."

In Mississippi county, Arkansas, "one-fourth died of starvation in consequence of inundation."

In Houston county, Minnesota, "there has been no disease among the cattle, but many are dying for want of proper feeding, in consequence of the failure of the corn crop. Hay is scarce and farmers have depended on straw, as usual, and the quality of the latter is quite poor."

In Pocahontas county, West Virginia, "many cattle died from exposure."

Such is the tenor of letters from the south and the younger States of the west. The aggregate loss must amount to an immense sum, and most of it was plainly avoidable with proper expenditures of foresight and industry.

DISEASES OF HORSES.

Horses have suffered comparatively little from disease during the past year. Very few cases of disease are reported from New England. In the middle States, reports of glanders and lung fever are made from a few counties. In the south there is more complaint of glanders than elsewhere, every State having been afflicted by it—in some places with great severity—early last season. This disease seemed to be a legacy left by the war; but it is now rapidly disappearing. West Virginia, Michigan, Minnesota, Iowa, and Kansas, appear to be nearly free from disease; while the central States of the Ohio valley furnish occasional instances of glanders and lung fever. In Texas several counties have suffered from "loin distemper," which does not affect geldings, though both sexes are subject to it.

In Addison county, Vermont, an unusual disease made its appearance, introduced by a span of fine horses from Boston. A correspondent says: "The horses must have taken the disease on the cars, for they left no traces of it in the stable from which they came. It was but a few days since that I learned anything of it; it is represented as taking the flesh off rapidly. It passed through a stable of twelve horses, owned by the man to whom the Boston horses were sent, and has now made its appearance among the horses of his near neighbors. I do not learn that it has proved fatal in any case. Its name and character, as well as treatment, are yet to be developed."

In Morris county, New Jersey, several horses died "from a disease supposed to be pleuro-pneumonia." All the cases proved fatal.

In Jefferson county, New York, a "horse distemper" is prevalent, but not very fatal.

A mortality, estimated at one-third of the colts foaled this spring, in Ozaukee county, Wisconsin, is reported. The disease is attended with swelling of the joints.

In Grant county, Wisconsin, there have been instances of a disease of the eye.

The "big-head" prevails among horses in Pulaski county, Illinois.

In Clinton county, Illinois, about two hundred of the best horses "have died of a new disease. The horse becomes very sick, with quick breathing and pulse, and cold extremities, followed by death in twenty-four hours. No remedy

has been found." A loss of eighty-seven horses from "big-head" is reported in the same county.

In Miami county, Ohio, a fatal disease prevailed last year, but horses are now healthy.

In Van Buren county, Michigan, deaths have resulted from a disease attended with swelling of the legs, head, and jaws, and with running sores.

Colic has proved fatal in St. Charles county, Missouri.

In Knox county, Kentucky, a fatal disease has prevailed "without any perceivable cause."

Lock-jaw and "lung disease," fatal in a few cases, are reported in Kent county, Delaware.

In Henderson county, Illinois, many horses have died—thirty in Oquaka—from a disease which appeared to be contagious. It was supposed to have originated in a pasture of new bottom land.

In Racine county, Wisconsin, a disease, somewhat resembling diphtheria, attended with a swelling and inflammation of the glands, and great prostration, has been prevalent. It generally yielded readily to remedial measures.

In Burton county, Georgia, several horses and one hundred mules died from blind staggers. There was a considerable loss of horses, "mostly for want of corn," while in Taylor county, Georgia, and Yalabusha county, Mississippi, many horses and mules died in consequence of feeding on "shipped" or "up country" corn, which had been damaged.

DISEASES OF SHEEP.

Sheep have suffered more from disease the past year than usual—more than cattle or horses, but less, probably, than hogs. The rot, formerly almost unknown in this country, is becoming quite too common for the comfort of wool-growers; yet few reports of this disease have been received, except from the south. New England presents a clean bill of health, except in some sections of Vermont and Massachusetts, where foot-rot and grub in the head are reported. In New York, either grub, foot-rot, "hoof-ail," black tongue, scab, or other diseases, are found in nearly one-third of the counties represented. In the west, scab is more prevalent, and very common in the south, particularly in Texas. Nearly half of the counties of Iowa report some form of disease, of which scab is the most common, with occasional mention of "yellows," "dropsy," and grub.

Poverty and exposure have done their work in many sections of the south, and, to some extent, in the west. In the most northern States, the sheep have wintered best; in the most southern, as Texas, the loss from exposure has been greatest. There is no doubt that the cost of adequate shelter for all the unsheltered sheep of the country could be easily defrayed by the value of sheep and lambs killed by exposure during the past winter. The severity of the season has been an expensive lesson to wool-growers in low latitudes, which will be worth its cost if it shall result in ampler protection, and more liberal supplies, for the rougher periods of a fickle climate.

The following epitome of correspondence will illustrate the various tenor of the information received:

Berkshire county, Massachusetts.—One in every twenty have the foot-rot.

Forest county, Pennsylvania.—A very destructive disease prevailed among sheep, whereby one-third died. Disease not known; but it appears to be something like consumption.

Niagara county, New York.—Grub in the head prevails; one flock lost one hundred, others ten to sixty.

Kent county, Delaware.—Rot exists in this county, and there has been a loss of young lambs from exposure.

Clinton county, Iowa.—Half the lambs lost from cold storms.

Miami county, Ohio.—Fifteen per cent. loss in wintering.

Lorain county, Ohio.—Heavy losses have resulted from rot. Livers light-colored and quite rotten.

Hardin county, Ohio.—Old sheep have done well, but half the lambs were lost.

Medina county, Ohio.—Sheep are in poor condition; one man lost one hundred, half his flock; another eighty, others sixty each. In this county 8,000 perished in the cold storm of June last—535 in one township.

Nicollet county, Minnesota.—Six per cent. loss from rot.

Livingston county, Illinois.—Losses of 200 to 300 head are reported.

Lycoming county, Pennsylvania.—“Two and a half per cent. of our sheep died, attacked with a swelling under the jaw. They moped around four or five days and died.”

Madison county, Virginia.—“The rot has prevailed among the sheep. In some cases entire flocks have been destroyed. The loss has been excessive. No remedy.”

Polk county, Tennessee.—Rot has destroyed three-tenths of the sheep.

Attala county, Mississippi.—“Sheep die from eating sneeze-weed. What is the remedy?”

Collin county, Texas.—Two-thirds of the sheep of this county have died with the scab, or from exposure.

Houston county, Texas.—Three-fourths of the lambs have perished.

Bell county, Texas.—Sheep and lambs have died from exposure.

Blanco county, Texas.—Some flocks have lost half from exposure.

Conecuh county, Alabama.—One-tenth lost by the rot.

Guthrie county, Iowa.—The sheep of this county are dying off rapidly. The first symptom noticed is a general weakness or giving way of the limbs, followed soon after by death, mostly among the rugged and robust sheep. After death the carcass is found full of small mattery pimples, (white.)

Niagara county, New York.—Scab and foot rot prevail to some extent, and are on the increase. Our principal correspondent thus writes of a disease affecting lambs: “First the ears begin to droop; then the eyes begin to run, first a thin watery discharge, which changes, as the disease progresses, to a thick white matter; often the lamb appears to be blind. The nose also discharges first a thin whitish mucus, which gets darker colored, and often tinged with blood; the lamb becomes weak and falls over every little stick or cornstalk, and they will often live two or three weeks after they are unable to get up. I heard one man say he had one he thought dead, and threw it back on a pile, and after it had lain there ten days he had occasion to remove them, and he found the lamb still alive. This disease rarely attacks any but tegs, though occasionally a yearling is taken and dies. I have bisected the head after death, and found from five to fifteen grubs, about from five-eighths to nearly one inch long, yet that this is the cause of the death I cannot say positively. Lambs have been troubled in this way only once before, and that in the winter and spring of 1860. In this county, in the aggregate, the loss must be many thousands, as my assistants represent it as prevailing in their sections.”

Wayne county, Indiana.—“Sheep are a little below average, in condition, having been allowed out in frosted pastures later than usual. Keeping stock out late in the fall because freezing weather does not drive them in for shelter, with their pleading looks calling for food, is, in my opinion, *cruelty and poor economy*. If nature's store of fuel (fat) for cold wintry days is early drawn on, it must sooner become exhausted, and the unthrifty, apologetic term, ‘spring poor,’ be loudly sung by shiftless husbandmen.”

Winona county, Minnesota.—“One farmer lost five hundred of his sheep, and was so badly discouraged that he sold the remainder of his flock for \$1 50 per

head. The disease is new to me. The head of the sheep would swell, and in a day or two the sheep would die, eating well almost to the last."

A correspondent in Cumberland county, Virginia, thus pictures the condition of sheep in that section: "There are a few animals here, called sheep, with long legs and tails, and long necks, that are turned out into old fields to shift for themselves winter and summer. They have no winter quarters except such as the thickets of pines give them; are rarely seen, and never fed, except it may be with a little fodder, when the snow covers the ground, and scarcely ever noticed but when a little wool is needed to be pulled or cut from their backs. And this is the treatment of this most valuable animal in a county that will grow turnips in the greatest abundance, and certainly, as proved by the last summer, when we had no more rain than would wet a pocket-handkerchief, from the middle of June to the last days of August, and yet fine turnips were grown wherever any suitable preparations were made."

Walworth county, Wisconsin.—"Foot rot is quite common, but is now so well understood and successfully treated that but a small per cent. of those attacked are lost. There are some cases (isolated) of *liver rot*. But there is a far more subtle and generally prevalent disease among the sheep than either of the above, termed "goitre," a well-known disease of the throat, and seems to be of a scrofulous character, which is widespread and very destructive, especially to lambs. This disease is new in this State, and appears to have originated from the use of high bred, and possibly 'in and in bred' bucks from the east, mostly Vermont. Its effect is more apparent in lambs at birth, and is marked by one or oftener two enlargements of the neck, and appears to be an enlargement of the thyroid gland, and not unfrequently of the whole thyroid cartilage. The lambs thus affected are weak, seeming to be more affected in the neck than body; and in many flocks a large per cent. are lost (in some cases seventy-five per cent. and over) from this disease. Mature sheep are not so much affected, or, at least, not in so marked and fatal a degree. Though some flocks are rapidly deteriorating from this cause, the disease, I fear, has not reached its climax. At present it threatens great damage to flocks, and seems to indicate a degree of loss far exceeding all the profits arising from the introduction of *improved* sheep. So far the disease is confined wholly, I believe, to the Vermont Merinos."

Bexar county, Texas.—"Sheep wintered well, but there was some loss from severe weather in the early part of this year, where sheep had no protection. The loss in my flocks in Bandera county, during the winter, was about twenty sheep; about one per cent. My sheep were not housed, but the pens were in a situation where the north and east winds were not much felt. I will remark that I used, during the winter, four tons of hay, cut from open lands on my estancia, which was a larger quantity than I have had put up any year of the five I have been in the business."

DISEASES OF HOGS.

Almost all the diseases of swine seem to be popularly resolved into "hog cholera." Of all diseases of domestic animals, those of this genus are evidently less thoroughly understood than that of any other farm stock. Ideas on the subject are in a singular state of confusion, and remedies are countless in number and most incongruous in character. If the symptoms were accurately noted, it would probably be found that several kinds of "hog cholera," as every prevalent disease of the hog appears to be called, are uniting in the mischief produced.

The New England States report no hog cholera, except a very little in Middlesex county, Massachusetts; New York has but little; several counties in Pennsylvania are afflicted; in the southern States half the counties report it, Georgia, Mississippi, and Tennessee having very few counties free from its influence, while the valley of the Ohio is overrun with it, Ohio suffering less than the other corn-growing States, and Michigan and the northwest nearly exempt.

In one locality in Tennessee erysipelas is named as an additional cause of loss, and "black tooth" in Wisconsin, and measles in North Carolina.

An idea of the alarming aggregate of loss may be gained by a reference to a few of the items showing the proportion, value, or number of the stock lost in separate counties. These, it is true, are selected from the worst cases, as follows:

Cambria county, Pennsylvania.—Sixteen per cent. died.

Lycoming county, Pennsylvania.—1,000 died.

Page county, Virginia.—Fifty per cent.

Floyd county, Virginia.—Three-fourths of the hogs died.

Roanoke county, Virginia.—Loss one-fourth of the stock.

Scott county, Virginia.—One-half lost.

Washington county, Virginia.—One-third lost.

Montgomery county, Virginia.—Two-thirds of the entire stock died. "I fed my hogs on a pile of wood ashes every day, salted regularly, and occasionally gave copperas and sulphur, and had no cholera among my hogs."

Craig county, Virginia.—Nearly all died in some parts of the county.

Cherokee county, North Carolina.—One-third died.

Caldwell county, North Carolina.—Loss twenty per cent.

Davie county, North Carolina.—Twenty per cent.

Barnwell district, South Carolina.—Loss on some farms eighty per cent.

Marion district, South Carolina.—Loss twenty-five per cent.

Warren county, Georgia.—Twenty-five per cent.

Taylor county, Georgia.—Loss twenty per cent. In some former years fifty per cent. Farmers have almost abandoned hog raising. If one recovers, it costs more to fatten him than he is worth.

Lumpkin county, Georgia.—Loss twenty-five per cent.

Clay county, Alabama.—One man, with a herd of 174, lost all but eighteen.

Marshall county, Alabama.—Loss between 2,000 and 3,000.

De Kalb county, Alabama.—Loss 500.

East Feliciana parish, Louisiana.—Loss twenty-five per cent.

Avoyelles parish, Louisiana.—Loss thirty-three per cent.

Williamson county, Tennessee.—Loss twenty-five per cent.

Robertson county, Tennessee.—Some farmers lost nearly all. Worst on water courses.

Union county, Tennessee.—Seven hundred died, valued at \$5,600.

Polk county, Tennessee.—Loss twenty per cent.

Montgomery county, Tennessee.—It has been difficult in some neighborhoods to raise enough for family pork.

Knox county, Tennessee.—Loss sixty per cent. of all the stock.

Jefferson county, Iowa.—Loss fifteen per cent.

Jersey county, Illinois.—Loss 2,000 head.

Lake county, Illinois.—Loss twelve head.

Putnam county, Illinois.—Most of the young pigs have died this spring.

Alexander county, Illinois.—Loss fifty per cent.

Crawford county, Illinois.—Loss forty per cent.

Clark county, Missouri.—Loss fifty per cent.

Kenton county, Kentucky.—Loss 4,000 to 5,000.

It is unnecessary to continue the enumeration. In Kentucky the estimates of loss in different counties range from three to forty-five per cent. In Rock Castle county the damage is placed at \$10,000. The disease has been very severe in many portions of Indiana and Illinois. A few extracts from letters will show some peculiarities of the disease or its treatment.

Indianapolis, Marion county, Indiana.—Our correspondent (Fielding Beeler) believes that twenty per cent. of all the pigs produced in the last five years have perished from disease before reaching the pork barrel. He doubts the existence of any certain remedy, but thinks some of the agents employed may act

as preventives. He says: "I have never met with any case in my observation in which fully developed and well defined cases of cholera have been cured. It is true, no doubt, that hogs with cholera have been dosed and got well. It is also true, that they sometimes get well without being doctored at all. There are sometimes circumstances which seem to indicate that some farms, either from preventives used, or some other cause, were exempt from its visitation; but suddenly, without any apparent reason, it rages more violently and fatally there than any other place in the vicinity. I will give you a case in point, (one of several similar ones which occur to my mind.) The owner of a large farm in an adjoining county has been in the habit of feeding about 150 head of hogs of his own raising every fall; his hogs were noted as the best in the county. The farms adjoining his had frequently been scourged with the disease, but his had always escaped, until he had come to believe that it was on the account of something peculiar in his location, and in his care of his hogs, and the belief in his neighborhood had become general that he was possessed of some preventive unknown to others. About the first of last September the cholera broke out among his hogs, and out of about 300 head, 150 of which were then about ready for the butcher, he had not enough left to make his family pork.

"A case in point as to cures. A farmer was feeding, in the fall of 1865, upwards of one hundred hogs in one lot, when the cholera, or what was considered cholera, made its appearance among them, and several had died, and others were sick, when he was told that stone coal was a remedy. He immediately procured a load and threw it to his hogs, when, to his surprise, the disease disappeared; there were no more new cases, and those already affected recovered, and left my friend in the firm belief that stone coal was a certain remedy. In the fall of 1866 the same man purchased one hundred head of hogs, (then in good condition and apparently healthy,) and took them to his farm to fatten; the next day after reaching home with them they began dying, when he immediately began feeding stone coal as before, but they continued to die till sixty out of the one hundred were dead. The substances most generally used as cures or preventives are sulphur, black antimony, rosin, turpentine, crude petroleum, stone coal, charcoal, ashes, salt, &c. I fatted a lot of hogs last fall, to which I fed the ashes from a neighboring steam mill, where a mixed fuel of wood and coal was used, among which there was a considerable amount of both stone coal and charcoal; which dropped through the grates without being consumed. I am satisfied that it was good for the hogs, and they seemed very fond of it; when they had had none for a few days they would eagerly follow the wagon for it when it was driven into the lot where they were being fed; still I would by no means recommend it as a certain preventive of cholera."

Hancock county, Illinois.—"Hog cholera has prevailed to a considerable extent in the last five or six years, and the yearly loss has been at least twenty-five per cent. In regard to remedies, all the usual ones recommended have been tried, but none of them proved certain as preventives or cures. Mr. William Wack, an observant and wealthy farmer living in this county, has discovered a cure which he considers certain. Last spring his herd were attacked with the disease, and, notwithstanding he used all the usual remedies, he lost many. A valuable sow, which he was anxious to save, was attacked with the disease in its most virulent form, and, for the purpose of giving her better attention, he put her in a lot by herself; but the disease progressed until she was in the 'last stage.' A cow in an adjoining lot had just dropped her calf, and, as her udder was very full, Mr. Wack drew the milk into a bucket, and gave it to the sick sow. Three or four hours afterwards he was astonished to find the animal eating food, and apparently free from the disease. He could conceive of no other cause for this sudden change than the fresh milk she had drunk. Having ten pigs in a pen having the disease in different stages, he gave them to drink freely of fresh milk, and all of them rapidly recovered. He then se-

lected all that were affected with the disease, and treated them in the same way, and the result was the same; and not a hog has been lost by the disease on the plantation since that time. Mr. Wack is satisfied from these tests, and from others since made, that sweet milk is not only a preventive but a certain cure for hog cholera."

Macomb, McDonough county, Illinois.—"It is as great a mystery as human cholera. Hogs on high ground, well ventilated, perhaps suffer less than those differently cared for. And I am not sure, even, that this is true; for I myself lost one hundred out of one hundred and fifty in a thirty-acre timber lot, which embraced a high knoll, and was well watered with a running stream."

Moultrie county, Illinois.—"Hog cholera: loss at least forty per cent. of the hogs in this county. Best remedy found is—calomel, one ounce; arsenic, two ounces. Give the above in corn-meal swill to twelve hogs in the evening; follow next morning with one pound sal soda to eight gallons of slop, (wood ashes will do.) After the medicine has thoroughly worked off, give a teaspoonful of copperas each day to each hog for a few days."

Rock Island county, Illinois.—"My hogs were dying at the rate of from five to eight per day with cholera, when I gave to every twelve one quart of common lye mixed in ten quarts of milk, and not one died after that day. The milk was given to induce the hogs to drink the lye."

Alamakee county, Iowa.—"After losing about a dozen hogs by hog cholera, I removed the remainder to a small grassy enclosure, and bought five pounds of sulphur, two pounds of saltpetre, and two barrels of charcoal, upon which I fed them freely by placing the mixture in the trough with a liberal supply of salt and ashes. The hogs eat it freely, and I lost no more hogs or shoats. One fine hog was so much affected by the disease that it could not be induced to move for its feed or water. I carried her some milk with the above remedy in it. She drank it, and the next morning appeared well."

Davidson county, Tennessee.—"The hog cholera has generally prevailed, and, from the best information at my command, at least one-fourth of the swine of this section have died of the disease within the past twelve months. Various remedies have been tried; but I have succeeded best by putting the afflicted hogs into a dry pen, and administering alkaline preparations. Corn rolled in strong wood ashes, or boiled with ashes, seems to have a good effect. Pine tar on the food is a favorite remedy."

Morgan county, Georgia.—"The hog cholera has prevailed very generally throughout the county, some farmers losing almost their stock of hogs. So destructive has this disease become that a great many will abandon pork raising, and depend on the north and west for their supply. Four hundred hogs died on one plantation. Average annual loss fully fifty per cent."

Amite county, Mississippi.—"Hog cholera has prevailed here to some extent, confined principally to the young hogs; the loss supposed to be at least one-fourth of that class of hogs. The treatment that proved most effectual was a solution of salt and water, in which was incorporated a small portion of sulphur and lard; but with all the attention we could give, many died."

Attala county, Mississippi.—"We have had some hog cholera, and our farmers lost from twenty to eighty per cent. But few have escaped loss to some extent. All remedies used years ago failed, and none now known except green sorghum, which, of course, can only be procured at certain seasons of the year."

Washington county, Mississippi.—"There has been some hog cholera in this county, but not very destructive. Loss in the county about three hundred head. The only remedy I know of is to give the animal plenty of salt and wood ashes."

White county, Arkansas.—"Having lived in the great hog-raising country south of the Green river, and having frequently suggested remedies for the cure and prevention of the disease known as hog cholera, I am convinced that I have

at last found an effective remedy, one which I have never known to fail in a single instance when constantly used, though the hogs frequented herds in which the disease prevailed. The remedy is simply to boil the corn (shelled or in the ear) in hickory wood ashes, and feed it to the hogs every morning while the disease is in the vicinity. The hogs will thrive under it whether diseased or not."

Tippah county, Mississippi.—"Loss from hog cholera twenty-five per cent. of the entire crop of last year, and a still larger proportion has been lost in former years by this dreadful malady; since 1855 it is estimated that the loss from this disease alone has been fifty per cent. annually, not in the same proportion, however, every year. All treatment futile."

Winston county, Mississippi.—"The loss from hog cholera must be near one-third of the hogs in the county."

Mississippi county, Arkansas.—"Dr. A. M. Johnson, who has practiced in this State and Illinois through several seasons of Asiatic cholera, says he has never known hog cholera to prevail during the existence of that epidemic."

Remedies.—The general testimony is, that medication is useless. As a preventive, many are hopeful of the influence of a favorite remedy. Yet they often find their care for prevention utterly valueless. Some correspondents offer "sovereign remedies." The recommendations, when considered in the aggregate, would deplete a well-stocked apothecary shop. It may serve to amuse, if it does not instruct, to refer to the formidable list, which is, in part, as follows:

Copperas, sal soda, saltpetre, ashes, salt, soap, gas-lime, coal oil, tar, bituminous coal, charcoal, lime, ley and milk, sulphur, sulphate of iron, black antimony, calomel, podophyllum, opium, arsenic, corrosive sublimate, sulphate of zinc, alum water, spirits of turpentine, smartweed tea, soapsuds, poke root, tobacco • and persimmon bark, assafoetida, mandrake, garget root, &c.

HARVEST PROSPECTS.

Never has there been so general an expression of encouragement, in view of the fine condition of winter wheat, since the establishment of the present system for the collection of crop statistics. In more than nine-tenths of the returns received, the condition of the crop is reported favorable and promising. From the south the returns are as cheering as from the west.

Here and there it is stated that a smaller breadth, from lack of labor or from bad weather in the fall, was sown or drilled. In a few places winter-killing is reported.

The following are among the drawbacks reported:

Morrow county, Ohio.—But half a crop was sown in consequence of a wet fall.

Outagamie county, Wisconsin.—Winter-killed on old ground, but escaped on new ground.

Ottawa county, Michigan.—Badly frozen for want of snow.

Randolph county, Illinois.—From the 12th to the 18th of March there was heavy frost, which froze out the wheat.

Richland county, Illinois.—Winter-killed—half a crop expected.

Henry county, Ohio.—Early sown did well—the late was killed.

Livingston county, Michigan.—But little killed.

Marshall county, West Virginia.—Wheat is fine, although the alternate freezing and thawing of March was severe.

Washington county, Illinois.—Winter-killed—half ploughed up.

Lawrence county, Illinois.—Wheat injured from freezing during March.

Bell county, Texas.—Injured by freezing.

Linn, (and other counties,) Kansas.—Destroyed by grasshoppers.

On the contrary, many correspondents promise an extraordinary crop, some of them double the usual quantity.

The Pacific coast forms no exception to the general expression.

A correspondent in Salem, Oregon, says: "We have had a remarkably fine winter, and all growing crops are in splendid condition. There has been little snow or cold weather, and at no time, thus far, has ice formed to the thickness of a quarter of an inch. Upon the whole, I consider Oregon the finest country and climate in the United States."

AMOUNT OF WOOL ON HAND.

As the result of general inquiries relative to the stock of wool on hand, it is found that in most localities the greater portion was sold during the year. Yet a considerable quantity remained on hand at the time of the passage of the late tariff, the most of which has since been sold by farmers. In many places but two to five per cent. of the clip was reported in farmers' hands. In some places ten per cent. or more; in a few others twenty-five to fifty per cent.

In Franklin county, Massachusetts, three-fourths of last crop, and half of that of 1865, are reported on hand; \$1 05 per pound having once been refused for some of it.

In Tompkins county, New York, more wool was held over than usual. Some have their whole clip.

In Eau Claire county, Wisconsin, "all of last year's and much of three years' clip"

THE "RAMIE."

Letters have been received in the department relative to a fibrous plant called "Ramie," or the *Boehmeria tenacissima*, which was introduced in March from Mexico into New Orleans, where it is said to be growing finely. It was introduced into Santocomapan, near Vera Cruz, twelve years ago, as is claimed, by Benito Roezl, an Austro-Belgian botanist, and propagated extensively.

A paper has also been received upon the same subject, which was read by A. B. Bacon before the New Orleans Academy of Sciences. Mr. Bacon, in a letter dated April 30, says of his experiment with a specimen: "I put the root in the ground in my garden March 23. The plant is now about four inches high, and seems to grow vigorously."

Another gentleman, in a second letter from New Orleans, says: "It is claimed here that it is impossible to propagate it from seed, but that it can be propagated from cuttings. From other sources I am led to the belief that this latter idea, at least, is erroneous."

It seems to be creating a local sensation, and to be generally regarded in that quarter as a new discovery fraught with good to the south. It may possibly prove to be agriculturally remunerative. There is no doubt of its great excellence and value as a fibre. But it is to be hoped that those interested in propagating it will descend to no mystification of the public as to its character and identity.

It produces a fibre well known commercially, for an indefinite period wrought into fabrics of great beauty and strength in all the principal countries of the east, and for many years manufactured in Great Britain. It belongs to the nettle family, (*Urticaciæ*), and this species is now known as *Boehmeria*, and was christened by Dr. Roxburgh, an eminent botanist, *B. tenacissima*, from its toughness. Other botanists gave it the name *B. nivea*. Sir William Hooker declared positively that the names were synonymous; that the plants so named were identical. Dr. Shaeffer, librarian of the Patent Office, who wrote in the Agricultural Report of 1855 concerning it, still regards the *B. Nivea* and *B. tenacissima* as identical. If it were conceded that they were sub-varieties of the same species, it would not be a practical difference; for the fibre is the same, its uses and price the same, and the fabrics manufactured from it are known as

China-grass textures, of which some fine samples may be seen in the museum of the Department of Agriculture, manufactured in England. In China the common name of this plant is "chou-ma;" in Japan, "Tsjo;" in Sumatra, "caloe;" in Malacca, "ramee" or "ramie;" in East Celebes, "gambe;" in Assam, "rheea;" in Bonona, "inan;" and in other places it is known by different names. There is a slight difference, as to coloring of leaves and downiness of surface, in different climates and localities; but the balance of authority among botanists seems to declare these differences too small to warrant even a separation into varieties.

In the report of agriculture for 1865 will be found an essay on this fibre, with a brief history of the introduction of the plant into the botanic garden of the United States in this city, in 1855, by the superintendent, W. R. Smith, who obtained it from Jamaica, through Mr. Wilson, of the government gardens of that island, and propagated, under glass, about fifty plants *from the seed*. Mr. Saunders, at the experimental garden of this department, has also grown them, and now has them in his garden.

Mr. Bacon, in his recent paper on the ramie, or rami, says, relative to its propagation by Mr. Roezl:

"The ramie, as Mr. Roezl informs us, is planted like sugar-cane, by laying the stalks or canes about two or three inches under the prepared earth in rows. The first crop from this planting will reach only two or three feet in height, when it will be found ripe for the knife, and should be cut close to the ground. These stalks will not produce the thread in perfection. From the stubble thus cut new plants will rise and attain a greater height, and be cut in a like manner again and again, until, in Santocomapam, Mr. Roezl takes off five crops in each season; the plant when well rooted reaching the height of twenty feet, each crop being equal to one of hemp as cultivated in Europe. It is his opinion that in this country Florida, Louisiana, and the middle and southern portions of Georgia, Alabama, Mississippi, and Texas are alone suited in climate to its profitable growth; and that here from three to four crops of it may be made in each year.

"The plant, when once rooted in the soil, is exceedingly hardy, and in this climate a perennial one. It will be greatly benefited by cultivation; but neglect will not endanger it. It has no insect enemies dangerous to its growth or existence. If, when ripe for the knife, the cutting of it is delayed through any fortuitous circumstance, it is not injured by standing. The machinery invented by Mr. Roezl for cleansing it may be provided at a very moderate cost, and is simple and comparatively light of carriage.

"It remains only to add, as to its practical value, that in 1865 Mr. Roezl sent fifty tierces, containing over five thousand Spanish pounds, of the textile to England, and that it was there sold at double the price of the best quality of cotton. Fabrics woven from it will be exhibited in the approaching world's exhibition of Paris, woven in the looms of Lyons, Belgium, and England. Its great productiveness will, doubtless, in the end reduce the cash value of it in the manufacturing markets; but with it that of cotton, linen, and other rivals."

NORTH CAROLINA.

Daniel R. Goodloe, esq., United States commissioner for North Carolina, communicates the following:

Perhaps no State in the Union is so remarkable for diversity of climate, soil, and productions as North Carolina, and no other has such variety of productions. The breadth of latitude covered by its territory is not great, being only 2° 40'; but in its length, from east to west, it stretches from the sea-board to the highest summits of the Alleghany range of mountains, a distance of five

hundred miles, and embraces three zones, greatly varied in character and temperature by differences of elevation. The lower zone is mostly a flat sandy region, in many places covered with swamps or "pocoson," which, however, are above the sea level, and therefore susceptible of easy drainage. These swamps are all valuable for their timber, and some of them for the fertility of their soils. The dry land is covered with timber, for the most part pine, which is highly valuable for the yield of turpentine, rosin, and tar, as well as lumber. The soil is generally light or thin; but there are many exceptions to this rule, while there are in many places inexhaustible beds of marl underlying this region, which can be drawn upon with facility for enriching the surface. This eastern or lower zone extends to the foot of the first range of hills, a distance of eighty to one hundred miles from the sea-shore, and comprises about one-third of the State. There are few portions of the Union which offer greater inducements to the capital, enterprise, and skill of the people of the north than the eastern portion of North Carolina. Its agricultural productions are valuable. They consist of Indian corn, wheat, oats, Irish and sweet potatoes, cotton, rice, peas, beans, sorghum, grapes, and a great variety of garden products. This region is the peculiar home of the sweet potato, which is produced in no other part of the world in such abundance, and of such superior quality. The county of Edgecomb, near the western boundary of this immense plain, is famous for its cotton crops, which have been produced by the use of marl, found under the soil. The Roanoke bottoms are unsurpassed for fertility, and are cultivated chiefly in grain. Some of the largest grain crops in the world are produced in this section of the State. We have heard of crops amounting to one hundred thousand bushels of corn. Great facilities exist for transporting the grain of this region to the northern markets. The vessels approach the farms directly, and receive their freight at first hand from the farm wagons, which fact is of the greatest importance to the producer. The southeastern counties, among other things, produce rice; but this product belongs more peculiarly to South Carolina.

It is unnecessary to dwell upon the importance of the cotton crop. The southern planters grew rich by its production when the price of the article was scarcely one-third what it is at present, after due allowance is made for the depreciated currency. There is no danger of an excessive production for some years to come; and whoever employs capital with energy and skill in the growth of cotton, in any proper soil south of the thirty-sixth parallel of latitude, is sure to be richly rewarded. The true gold field is the cotton field. In the extraction of turpentine, rosin, and tar from the pines of North Carolina, and in the sawing of lumber for the northern markets, there are other inexhaustible fields of enterprise, which are sure to reward those engaged in them with liberal profits. This branch of industry is peculiarly inviting to northern capital and skill. The pine regions are healthy; northern laborers may be introduced without risk, and the processes are of a character to admit of improvement. Yankee ingenuity could scarcely fail to invent new and cheaper methods than those employed by the unskilled natives.

We must next notice the midland region, extending from the district just described to the mountains; in other words, from the foot of the hills on the east to the foot of the mountains on the west. This zone is described by Professor Emmons, the State geologist, as a table land, with an undulating surface, but with an average elevation of several hundred feet. Raleigh is some 200 feet above the sea level; Greensborough is 846 feet above tide water. The rivers which rise in the mountains, and pass their waters to the ocean through this elevated district, nearly two hundred miles in width, necessarily furnish great facilities for manufacturing. The falls of the streams are innumerable, and "water power" without limit is distributed over every part of its surface. The surface, where not cleared for agricultural purposes by the sparse population, is

everywhere covered with forests of oak, pine, hickory, walnut, maple, beech, chestnut, and other trees; and, in a word, the traveller nowhere perhaps in the United States sees so much forest as in North Carolina. The productions of the middle region are Indian corn, wheat, rye, oats, buckwheat, barley, Irish and sweet potatoes, apples, peaches, pears, grapes of several indigenous varieties, tobacco of the best quality in the northern tier of counties, and cotton in all south of them, besides garden products of every kind, and many other articles. This midland region also has valuable mines of gold, coal, iron, and copper; and no part of the world is more blessed with health. The water everywhere gushes pure and perennial from the earth, in all this upland region, and a majority of the inhabitants drink it from springs, without being under the necessity of digging wells. The country is at the same time beautiful, and abounds in groves of white oak which are scarcely equalled in picturesque effect by any on the continent. The soil is generally good, though not equal to that of the Mississippi valley; but it amply rewards the labors of the husbandman. The climate is a delightful mean between the extremes of cold and heat north and south; and, on the whole, there is no part of the world in which a virtuous, intelligent, and free people may enjoy greater happiness, or more uninterrupted prosperity, than in the middle region of North Carolina.

The following meteorological observations, for a series of years, made at the university situated at Chapel Hill, near the centre of the State, will convey a general idea of the climate. We find the statement in the North Carolina Advertiser of a recent date:

"In 1850-'51, (counting from June to June,) the annual thermometrical *mean* (the result of three daily observations) was 60.40 degrees. The hottest day was July 1, 1850—the mean temperature being 85 degrees; and the coldest, February 5, 1851—the mean being 23.625. The first frost fell on the 21st day of October. The peach flowered February 28; cherry, quince, and apple, March 15.

"In 1851-'52 the annual thermometrical mean was 58.50 degrees. Hottest day, July 27, 1851, with a mean temperature of 89.5; and coldest, January 20, 1852, with the extraordinary mean for this latitude of 12.25. First frost, October 24. Peach, cherry, apple, and pear bloomed March 1, 6, 12, and 15, respectively.

"For 1852-'53 the annual mean was 59.15 degrees. Hottest day, June 17, 1852, with thermometrical mean of 83.75; coldest, March 5, 1853, mean 26.5. First frost, October 16. Peach, pear, apple, and cherry flowered on March 1, 19, 26, and 29—the peach, this year, of course, being materially injured. As a general rule, the fruit crops in this region, however, are not by any means precarious.

"For 1854-'55 the annual mean was 59.87. The coldest day was February 28, 1855, the mean being 25 degrees, and the hottest July 5, 1854, with a mean of 89 degrees. First frost fell October 16. Plum, cherry, and apple flowered respectively on April 1, 2, and 10."

The western zone of North Carolina embraces the mountain region from the eastern foot of the Blue Ridge to the Tennessee line. It consists of a succession of high ridges and valleys, some of the former running into peaks six thousand feet above the sea level; and one of them, the Black Mountain, rising to the height of nearly seven thousand feet, or higher than any point on the continent east of the Rocky mountains. The average level of the valleys and lower plains in this region is quite two thousand feet above the sea. Approaching the mountains from the east, the ascent is very abrupt; and one-half of the ascent, measured from the ocean to the top of the Blue Ridge, is encountered in the last six miles. On the west, the descent is very gentle; and a railroad from the west could be carried to the summits of the gaps without the necessity of tunnelling. Almost every foot of ground in the mountain region can be made useful to man, for purposes of cultivation or grazing; and it is destined, doubtless,

to be peopled, in the course of time, to the very tops of the highest peaks. Everywhere the soil is good, and the climate delightful.

A common figure of speech, framed originally, perhaps, with reference to latitudes, is calculated to impress the unreflecting with very erroneous ideas in regard to the south. We allude to the phrases, "down south," "down in Virginia, or the Carolinas." The facts stated above will show at once the absurdity of such expressions, when taken literally. The denizen of Boston or New York who complacently talks of going down to North Carolina is in reality as absurd as if he should say down to the Catskill, or down to the White mountains. The mountains of North Carolina are the highest east of the Rocky range which divides the Mississippi valley from the Pacific slope; and the average level of the State, for the same reason, is higher than that of any State east of the Mississippi river. This fact has much to do in tempering the climate, and should ever be kept prominently in view by the friends of the State.

AGRICULTURAL EXPORTS FOR JANUARY AND FEBRUARY.

The following statement of exports of certain products of agriculture and forestry for the first two months of 1867 is from official figures of the latest treasury reports:

Articles.	JANUARY.		FEBRUARY.	
	Quantity.	Value.	Quantity.	Value.
Agricultural implements		\$22,693		\$65,594
Animals, living, of all kinds		63,961		108,157
Breadstuffs:				
Bread and biscuits.....pounds..	533,236	38,701	503,567	50,531
Indian corn.....bushels..	555,382	630,704	908,137	1,032,660
Indian meal.....barrels..	14,992	78,624	14,132	91,162
Oats.....bushels..	32,589	22,493	19,230	13,054
Rice.....pounds..	397,955	35,675	56,901	2,494
Rye.....bushels..	12,119	8,125	30,481	27,087
Rye flour.....barrels..	560	4,600	144	977
Wheat.....bushels..	520,224	621,833	1,580	4,914
Wheat flour.....barrels..	59,166	571,567	51,246	628,532
Cotton, unmanufactured:				
Sea Island.....pounds..	453,597	325,373	941,249	694,843
Other.....do.....	79,894,137	25,773,492	77,455,163	25,042,439
Manufactures of		119,867		161,615
Lumber and manufactures of wood:				
Board planks and scantling.....M feet..	7,929	329,625	7,888	177,730
Hewn timber.....tons..	2,569	25,725	3,621	30,048
Other lumber.....		90,809		77,872
Laths and pickets.....		199		532
Shingles.....M..	1,921	11,715	2,183	13,241
Shooks.....		405,807		443,670
Staves and headings.....M..	1,355	160,076	1,368	202,944
Manufactures not specified.....		166,065		118,174
Household furniture.....		47,594		77,355
Oil cake.....pounds..	4,124,660	107,437	7,442,492	195,453
Provisions:				
Beef.....pounds..	1,447,508	160,881	1,776,755	184,748
Butter.....do.....	145,486	37,863	236,261	71,757
Cheese.....do.....	2,788,106	399,638	1,343,818	262,150
Fish, dried and smoked.....cwt..	11,709	62,803	11,066	52,023
fresh.....		1,700		1,037
pickled.....barrels..	900	8,297	1,973	20,372
Hams and bacon.....pounds..	2,502,650	295,867	3,531,399	414,906
Lard.....do.....	3,947,584	524,523	4,618,760	623,899
Pork.....do.....	2,496,263	261,192	2,190,986	241,347
Potatoes.....bushels..	27,906	31,756	54,627	56,129
Tallow.....pounds..	1,884,199	205,983	2,862,720	317,300
Tobacco:				
Leaf.....pounds..	6,011,285	596,773	8,181,339	755,026
Cigars.....M..	46	2,518	226	7,012
Snuff.....pounds..	795	769	200	284
Manufactures not specified.....		177,794		193,273
Total.....		32,431,117		32,462,341
All other exports.....		7,517,496		6,013,534
Total exports.....		39,948,613		38,475,875

PRICES OF WOOL UNDER THE NEW TARIFF.

The following comparison of prices of wool before and since the passage of the late tariff act, as prepared for the United States Economist, shows an enhancement of values of domestic wools which promises a fair encouragement to sheep husbandry :

Grades of wool.	February 22.	April 26.
	<i>Per pound.</i>	<i>Per pound.</i>
American, Saxony fleece.....	50 to 65	62½ to 75
American, full-blood Merino.....	48 to 60	58 to 64
American, half and three-quarters Merino.....	45 to 50	53 to 57
Extra, pulled.....	50 to 55	50 to 55
Superfine, pulled.....	40 to 50	40 to 50
No. 1, pulled.....	30 to 40	30 to 40
California, unwashed.....	30 to 40	30 to 40
California, common.....	22 to 23	22 to 27
Texas.....	18 to 32	18 to 33
Peruvian, unwashed.....	33 to 33	30 to 33
Valparaiso, unwashed.....	28 to 30	28 to 30
South American Mestiza, unwashed.....	32 to 34	32 to 34
South American, common, unwashed.....	25 to 27	25 to 27
South American Cordova.....	40 to 46	40 to 46
Entre Rios, washed.....	32 to 48	32 to 38
African, unwashed.....	20 to 30	20 to 30
African, washed.....	30 to 40	30 to 40
Mexican, unwashed.....	20 to 27	20 to 27
Smyrna, unwashed.....	28 to 32	28 to 32
Smyrna, washed.....	35 to 58	35 to 58

PRICES OF AGRICULTURAL PRODUCTS.

The following statement of prices of certain products for twelve consecutive years, in New York, on the first day of May in each year, is condensed from an extended statement of comparative prices prepared for the New York Journal of Commerce.

	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.
Breadstuffs: Wheat flour, State.....barrel..	\$5 50	\$6 00	\$4 25	\$5 50	\$5 50	\$5 20	\$5 00	\$6 00	\$7 10	\$6 90	\$7 10	\$10 70
Rye flour, fine.....do.....	3 25	3 50	3 40	3 75	3 50	3 10	3 25	4 00	6 00	6 10	4 90	8 75
Corn meal, Jersey.....do.....	3 12½	3 25	3 50	3 90	3 80	2 85	2 75	4 15	6 00	5 75	3 85	6 50
Wheat, prime white.....bushel..	1 80	1 85	1 35	1 70	1 65	1 65	1 42	1 80	1 88	1 85	2 55	3 40
Rye.....do.....	78	90	66	84	84	68	80	1 03	1 53	1 03	78	1 58
Oats, State.....do.....	40	58	46	54	43	36	40	85	86	72	61	83
Corn, yellow.....do.....	62	80	73	86	82	67	58	94	1 33	1 48	86	1 40
Cotton: Middling Upland.....pound..	10½	14½	12½	12	11½	13½	28	66½	83	.....	33	28
Hay.....do.....	80	75	45	75	95	80	65	80	1 60	90	60	1 90
Hops.....do.....	9	10	8	13	10	16	15	20	23	35	65	60
Provisions: Pork, mess.....barrel..	19 00	23 00	18 75	16 35	17 75	17 87	12 62½	15 00	26 50	26 00	26 00	22 80
Pork, prime.....do.....	15 50	18 90	15 35	12 75	14 25	13 25	10 00	13 00	23 87½	25 00	24 00	19 00
Beef, mess, country.....do.....	8 50	13 50	11 50	8 25	5 25	6 00	6 00	6 00	13 00	14 00	20 00	16 00
Beef, prime.....do.....	8 00	11 25	8 50	6 50	4 25	4 25	4 50	4 50	7 00	.....	.....	.....
Pickled hams.....do.....	9½	11	10	9½	9½	8½	5½	7½	15½	18	17½	13
Pickled shoulders.....do.....	7½	9	7½	6½	7½	6½	4½	5½	11½	15	12	9½
Lard.....do.....	10	14½	11½	11½	11½	9½	8½	10½	14½	18	20	13½
Butter, State.....do.....	20	27	25	22½	18	16	18	19	31	35	50	28
Cheese.....do.....	10	13	8½	10	10	7	8½	12	17½	20	20	19
Rice.....do.....	4 25	5 00	4 25	4 00	4 12½	5 75	6 50	8 00	10 25	10 50	9 12½	10 50
Salt: Liverpool, fine.....sack..	1 78	1 45	1 37½	1 50	1 70	1 60	1 65	2 50	2 20	2 50	2 75	*2 60
Seeds: Clover.....do.....	12	11	7½	8½	8½	8	7½	8½	12½	30	12	15
Tallow.....do.....	10½	11½	10½	10½	10½	9	8½	8½	14½	11½	11½	11½
Tobacco: Kentucky.....pound..	12½	16	12	11	10	9	8½	11½	30	25	20	16
Manufactured.....do.....	28	32	24	20	20	17	30	65	65	70	75	70
Wool: Common.....do.....	32	39	25	40	35	32	42	70	70	65	65	48
Three-quarter blood.....do.....	45	50½	34	50	48	40	45	75	75	67	50	55
Merino.....do.....	48	56	37	56	55	47	49	78	77	70	62	65
Pulled, No. 1.....do.....	34	37	22	33	.....	23	31	60	60	64	45	43

* Gold.

RESULTS OF FATTENING.

The following statement of an experiment in cattle-feeding was communicated by Count V. Riedelsee, Eisenbach, for the agricultural journal of Hessa, and is translated for this report.

The cattle represented in these tables were weighed every four weeks. Their food was of good, sound quality, seasoned at the end of the week with one-fourth pound of salt per head.

Number of oxen.	Weight at the beginning.	Weight at the end of the 1st month.	Gain during the 1st month.	Weight at the end of the 2d month.	Gain the 2d month.	Weight at the end of the 3d month.	Gain the 3d month.	Weight at the end of the 4th month.	Gain the 4th month.	Weight at the end of the 5th month.	Gain the 5th month.	Total gain in 5 mos.
No.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
1.....	1,070	1,110	40	1,170	60	1,300	130	1,400	100	1,490	90	420
2.....	1,085	1,140	55	1,160	20	1,250	90	1,360	110	1,480	120	395
3.....	1,100	1,170	70	1,280	110	1,410	130	1,510	100	1,645	135	545
4.....	1,050	1,100	50	1,180	80	1,225	45	1,250	25	1,340	90	290
5.....	965	985	20	1,060	75	1,100	40	1,230	130	1,370	140	405
6.....	935	980	45	1,070	90	1,150	80	1,250	100	1,350	100	415
7.....	965	1,025	60	1,110	85	1,190	80	1,235	45	1,285	50	320
8.....	985	1,025	40	1,070	45	1,090	20	1,150	60	1,215	65	230
9.....	950	990	40	1,040	50	1,120	80	1,150	30	1,190	40	240
10.....	940	975	35	1,040	65	1,140	100	1,210	70	1,280	70	340
11.....	920	930	10	1,000	70	1,120	120	1,250	130	-----	-----	330
12.....	785	810	25	850	40	870	20	890	20	-----	-----	105
13.....	-----	-----	-----	-----	-----	820	-----	920	100	-----	-----	100
14.....	-----	-----	-----	-----	-----	-----	-----	750	-----	830	80	80
15.....	-----	-----	-----	-----	-----	-----	-----	800	-----	870	70	70
16.....	-----	-----	-----	-----	-----	-----	-----	750	-----	815	65	65
Total ...	11,750	12,240	490	13,030	790	14,735	935	18,105	1,020	16,160	1,115	4,350

The rations fed consisted of, for the first month, distillery refuse from 400 pounds of grain; 50 pounds chaff, mixed with 25 pounds cut provender, (straw;) 100 pounds hay, 40 pounds green malt.

For the second month, distillery refuse from 400 pounds of grain; 50 pounds chaff, 25 pounds cut provender, 100 pounds hay, 40 pounds ground rye, 40 pounds green malt, (or beans and peas.)

For the third month, as also for the next two, (fourth and fifth,) the same, only adding 10 pounds more of ground grains, peas or beans. The race in question is the *Vogelsberger*. Highest gain for the term of five months, 545 pounds; least gain for the term of five months, 230 pounds; highest gain for one single day, 3.61 pounds; smallest gain for one single day, 1.52 pound.

The oxen from 11 to 16 are not taken into consideration, as not being kept for the whole term. We found that the individual state of each single animal has much to do with its getting fat, some gaining more than twice as fast as others, showing that the best animals only ought to be kept. In the whole term of five months 4,350 pounds of live weight were gained, with 64,192 pounds of food. Therefore 14.7 pounds of food produced 1 pound, though the same will be produced by 7 pounds of some other kinds of food. No kind of food, however, should be employed of which more than 20 pounds are required to make 1 pound of meat.

Estimating 100 pounds of live weight as being worth ten dollars, the value would be \$435. Therefore 642 cwt. of food produced \$435 worth of meat, or per cwt. \$6.77. This shows a fair pay for promiscuous feeding material, not to mention the gain of excellent dung. These rations in question were rather high in price, and I do not doubt that almost any other combination of food might do better.

In comparing my results with others I concluded to increase the addition of rich feeding matter towards the middle of the fattening term, and then decrease again, not however, diminishing the amount of food to be consumed. I likewise found that feeding oil-cake, maize, brans, oats, &c., will increase the rapidity of fattening and not require as big a bulk, thus saving time and matter. All such and similar facts may be established by not neglecting to weigh the cattle.

REFUSE MATTERS OF FACTORIES AS FERTILIZERS.

"The Journal of Agriculture" of Rhenish Prussia states that the refuse matters of the potash factory of Deutz are being used to great advantage as fertilizers. Dr. Camrodt writes that he used 70 cwt. of this refuse per acre, at a cost of about one dollar, and harvested an increased crop of 30 cwt. per acre over the yield of lands upon which it was not used, making a clear profit of about \$20 per acre. Thousands of tons of this refuse accumulate around the western asheries, where black salt and pearlash are manufactured from wood ashes, and from analysis and experiment it is considered a valuable and economical fertilizer at \$2 50 per ton. It is applied to the soil in the fall, and has a tendency to keep the ground mellow and well pulverized. Gypsum, rich in potash, also accumulates in these factories, and is found to be especially adapted to grass and clover, in many instances doubling the crops. The richest of all such matters, however, is said to be the refuse in making beet sugar. The *dirty water*, as the lye was called in the infancy of beet-sugar manufacture, was formerly conducted into ponds and rivers, killing the fish and poisoning the air far around, but by experiment the material proves to be worth almost as much as a fertilizer as the sugar produces in the market.

DESTRUCTION OF INSECTS INFESTING CEREALS.

In an article by M. Gaud, agricultural engineer of Belgium, it appears that since the year 1865 the depredations of the weevil and the alucite in that country have been alarming, and the scourge threatens to become even greater in the future, these parasites appearing in incredible numbers in the southwestern portion of the country. It is stated that in 1770, when the granaries of L'Angoumois were invaded by an army of alucites, sulphur-gas was the most effective remedy applied. The grain was deposited in barrels smoked with burning sulphur—the vessel being prepared by burning within it a few sulphur threads, made by drawing coarse threads through melted brimstone. Fifteen inches of this thread is sufficient for each barrel. The grain is then thrown in and kept there under cover for fifteen minutes, when the operation is complete. If the grain be very much damaged by the parasites, it should remain somewhat longer in the barrel.

[The only objection to this plan would be the taste or smell of the grain afterwards if used for bread. Would it not affect germination?]

PRICES OF FARM STOCK IN THE PACIFIC STATES.

Table showing the amount, in tenths, of the farm stock of the States and Territories named in February, 1867, compared with the amount in February, 1866, and the prices of the same on the 1st of February, 1867.

States and Territories.	HORSES.					MULES.					CATTLE AND OXEN.						COWS.		SHEEP.				HOGS.			No. of sheep killed by dogs in 1866, as reported by our correspondents.
	Average number compared with 1866.	Average price per head of same under 1 year old.	Average price per head of same between 1 and 2 years old.	Average price per head of same between 2 and 3 years old.	Average price per head of same over 3 years old.	Average number compared with 1866.	Average price per head of same under 1 year old.	Average price per head of same between 1 and 2 years old.	Average price per head of same between 2 and 3 years old.	Average price per head of same over three years old.	Average number compared with 1866.	Average price of same.	Average number compared with 1866.	Average price of same under 1 year old.	Average price of same over 1 year old.	Average number compared with 1866.	Average price per head of same under 1 year old.	Average price per head of same over 1 year old.	Average number compared with 1866.	Average price per head of same under 1 year old.	Average price per head of same over 1 year old.					
California	11.2	\$20	\$30	\$45	\$75	10.6	\$25	\$38	\$63	\$113	9.2	\$8	\$15	\$27	\$39	11.6	\$29	\$2	\$3	14	\$5	\$10	44	In 8 counties, 828.		
Oregon	10.7	24	35	53	97	12.3	30	45	71	113	10.2	64	11	17	29	10.8	26	2	3	10.5	3	7	00	In 7 counties, 984.		
Nevada	11.5	20	37	52	95	10.5	45	60	85	130	13	10	18	30	52	12.2	50	1	5	16	12	17	00			
Washington											15	10	18	25	45	12.5	30			11	5	10	00			
Dakota	12	50	80	100	120	10	40	70	90	150	14	15	20	30	45	14	30	4	20	3	5	10	00	In 1 county, 10.		
New Mexico.....		16	31	51	99	10	22	35	60	103	10	10	16	27	38		32		2	37	4	13	00			

There is a wide range of prices for stock in the Pacific States and Territories, depending very much upon the breeds, whether American or Mexican; also whether the prices are paid in currency or gold. The above are average estimates, based upon the returns of our correspondents.

Table showing the average yield per acre in 1866, and the prices of the principal farm products in Nevada, Washington, and New Mexico, on the 1st of January, 1867.

Farm products.	NEVADA.		WASHINGTON.		NEW MEXICO.	
	Average yield per acre in 1866.	Average price January 1, 1867.	Average yield per acre in 1866.	Average price January 1, 1867.	Average yield per acre in 1866.	Average price January 1, 1867.
	<i>Bush.</i>		<i>Bush.</i>		<i>Bush.</i>	
Wheat.....	20	\$2 00	20	\$1 04	68	\$1 40
Barley.....	25	1 35	34½	75		
Oats.....	35	1 00	32	45	77½	1 60
Corn.....	27½	2 12			55	1 50
Potatoes.....	150	1 25	158	55		
Hay.....	1. 2*	15 00	1. 91*	13 33	1*	35 00

* Tons.

The above returns are not sufficient to insure perfect accuracy. They are given as the actual averages of the returns from the counties reported.

EXPORTS OF AGRICULTURAL PRODUCTS.

The following is a comparative statement showing the quantity of certain products shipped from the port of New York during the first four months of the following years.

Articles.	1865.	1866.	1867.
Ashes, pot.....barrels..	1, 773	1, 691	1, 075
Ashes, pearl.....do.....	130	39	67
Beeswax.....pounds..	106, 684	111, 154	52, 592
Breadstuffs—			
Wheat flour.....barrels..	392, 365	344, 490	142, 124
Rye flour.....do.....	1, 160	1, 074	4, 533
Cornmeal.....do.....	46, 330	43, 523	43, 993
Wheat.....bushels..	185, 091	109, 467	32, 742
Rye.....do.....	141	171, 826	127, 282
Oats.....do.....	24, 473	676, 620	90, 890
Barley.....do.....			798, 780
Peas.....do.....	15, 879	26, 614	115, 140
Corn.....do.....	143, 112	2, 077, 156	2, 719, 740
Candles.....boxes..	46, 568	25, 014	22, 672
Coal.....tons..	13, 403	10, 816	27, 175
Cotton.....bales..	15, 995	235, 852	224, 771
Hay.....do.....	6, 228	17, 646	9, 409
Hops.....do.....	11, 553	383	1, 308
Naval stores—			
Crude turpentine.....barrels..	34	8, 208	52
Spirits turpentine.....do.....	481	2, 989	6, 891
Rosin.....do.....	2, 184	92, 647	89, 500
Tar.....do.....	6, 889	5, 776	745
Pitch.....do.....	521	726	1, 106
Oils—			
Whale.....gallons..	9, 693	42, 902	124, 222
Sperm.....do.....	35, 701	67, 775	316, 485
Lard.....do.....	13, 766	5, 198	26, 548
Linseed.....do.....	6, 043	2, 524	2, 554
Provisions—			
Pork.....barrels..	44, 022	39, 536	31, 544
Beef.....do.....	15, 216	12, 015	7, 064
Beef.....tierces..	27, 889	21, 379	16, 875
Cut meats.....pounds..	20, 788, 406	21, 636, 355	14, 114, 426
Butter.....do.....	6, 773, 087	743, 055	1, 522, 368
Cheese.....do.....	9, 587, 043	2, 989, 191	8, 355, 503
Lard.....do.....	13, 045, 692	12, 087, 482	12, 956, 500
Rice.....tierces..	28	29	82
Rice.....barrels..	13, 338	3, 825	4, 510
Tallow.....pounds..	9, 217, 560	5, 163, 116	6, 615, 793
Tobacco, crude.....packages..	53, 347	35, 325	28, 320
Tobacco, manufactured.....pounds..	1, 794, 158	962, 543	2, 298, 817
Whalebone.....pounds..	45, 730	180, 627	203, 735
Petroleum.....gallons..	2, 426, 915	9, 035, 298	8, 668, 900

CROPS OF 1866.

Table showing the amount in bushels, &c., of each principal crop of the several States named, the yield per acre, the total acreage, the average price in each State, and the value of each crop, for 1866.

Products.	Amount of crop of 1866.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
MAINE.					
Indian corn bushels..	1,624,239	33	49,219	\$1 35	\$2,192,723
Wheat..... " ..	193,150	12.7	15,208	2 86	552,409
Rye..... " ..	156,649	17	9,215	1 39	217,742
Oats..... " ..	2,653,626	27.7	95,799	69	1,831,002
Barley..... " ..	742,619	24	30,943	1 02	757,471
Buckwheat..... " ..	367,384	31	11,851	90	330,646
Potatoes..... " ..	6,146,725	156	39,402	51	3,134,830
Tobacco..... pounds					
Hay..... tons	957,772	.8	1,197,215	19 28	18,465,844
Total.....			1,447,470		27,482,667
NEW HAMPSHIRE.					
Indian corn bushels..	1,321,281	32	41,290	1 37	1,810,155
Wheat..... " ..	305,653	16.2	18,868	2 58	788,585
Rye..... " ..	161,559	16	10,097	1 39	224,567
Oats..... " ..	1,481,018	29.2	50,720	68	1,007,092
Barley..... " ..	105,038	25	4,202	1 19	124,995
Buckwheat..... " ..	76,455	22	3,475	1 08	82,571
Potatoes..... " ..	3,692,860	132	27,976	49	1,809,501
Tobacco..... pounds					
Hay..... tons	665,395	.84	792,137	17 88	11,897,263
Total.....			948,765		17,744,729
VERMONT.					
Indian corn bushels..	1,490,975	33.3	44,774	1 41	2,102,275
Wheat..... " ..	614,692	20.2	30,430	2 67	1,641,228
Rye..... " ..	154,783	18.5	8,367	1 51	233,722
Oats..... " ..	4,846,015	40.3	120,249	63	3,052,989
Barley..... " ..	104,390	29	3,600	1 23	128,400
Buckwheat..... " ..	225,252	30	7,508	1 00	225,252
Potatoes..... " ..	5,305,045	148	35,845	43	2,251,169
Tobacco..... pounds	59,000				
Hay..... tons	862,878	1	862,878	15 61	13,469,525
Total.....			1,113,651		23,134,560
MASSACHUSETTS.					
Indian corn bushels..	2,363,245	34	69,507	1 34	3,166,748
Wheat..... " ..	160,123	14.9	6,563	2 78	445,142
Rye..... " ..	401,538	17.2	23,345	1 38	554,122
Oats..... " ..	1,278,465	29.2	43,783	76	971,633
Barley..... " ..	144,598	22	6,573	1 27	183,639
Buckwheat..... " ..	101,946	20.4	4,997	1 02	103,985
Potatoes..... " ..	3,351,030	139	24,108	69	2,312,211
Tobacco..... pounds	5,171,400			20	1,034,280
Hay..... tons	742,872	1	742,872	28 39	21,090,136
Total.....			921,748		29,861,896

Table showing the amount of each principal crop, &c.—Continued.

Products.	Amount of crop of 1866.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
RHODE ISLAND.					
Indian corn bushels..	408,293	27.3	14,956	\$1 42	\$579,776
Wheat..... " ..	1,413	15	94	2 80	3,956
Rye..... " ..	32,658	17.6	1,855	1 44	47,028
Oats..... " ..	154,222	35	4,406	73	112,582
Barley..... " ..	35,031	28.3	1,237	1 15	40,250
Buckwheat..... " ..		18		1 50	
Potatoes..... " ..	499,440	105	4,757	80	399,552
Tobacco..... pounds ..	1,035				
Hay..... tons.....	53,379	1	53,379	31 66	1,689,979
Total.....			80,684		2,873,123
CONNECTICUT.					
Indian corn bushels..	2,220,502	33	67,288	1 26	2,797,832
Wheat..... " ..	71,881	17.3	4,155	2 83	203,423
Rye..... " ..	776,030	13	59,695	1 50	1,154,045
Oats..... " ..	2,741,448	32	85,670	71	1,946,428
Barley..... " ..	19,200	23.5	817	1 27	24,384
Buckwheat..... " ..	348,632	15	23,242	98	341,660
Potatoes..... " ..	1,480,268	109	13,580	81	1,199,017
Tobacco..... pounds ..	7,840,974	1200	6,534	19.5	1,528,990
Hay..... tons.....	536,527	1.4	383,233	25 60	13,735,091
Total.....			644,214		22,930,870
NEW YORK.					
Indian corn bushels..	22,809,893	27	844,811	1 16	26,459,475
Wheat..... " ..	12,556,406	15.2	826,079	2 67	33,525,604
Rye..... " ..	5,309,874	16.3	325,759	1 21	6,424,947
Oats..... " ..	54,029,350	33	1,637,253	61	32,957,903
Barley..... " ..	4,459,288	23.5	189,757	1 06	4,726,845
Buckwheat..... " ..	6,476,597	26.2	247,198	92	5,958,469
Potatoes..... " ..	31,156,676	107	291,184	69	21,498,106
Tobacco..... pounds ..	9,824,384	718	13,683	13.5	1,326,291
Hay..... tons.....	4,759,516	1.2	3,966,264	16 18	77,008,969
Total.....			8,341,988		209,886,609
NEW JERSEY.					
Indian corn bushels..	9,539,223	43.3	220,305	1 03	9,825,400
Wheat..... " ..	1,278,347	13.5	94,692	2 93	3,745,557
Rye..... " ..	1,408,497	14	100,607	1 26	1,774,706
Oats..... " ..	6,498,487	34.5	188,362	61	3,964,077
Barley..... " ..	27,167	20	1,358	1 00	27,167
Buckwheat..... " ..	861,376	18	47,854	1 15	990,582
Potatoes..... " ..	4,039,708	77	52,464	86	3,474,149
Tobacco..... pounds ..	153,691				
Hay..... tons.....	369,566	1.26	293,306	25 00	9,239,150
Total.....			998,948		33,040,788

Table showing the amount of each principal crop, &c.—Continued.

Products.	Amount of crop of 1886.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
PENNSYLVANIA.					
Indian corn bushels..	35,831,877	34.4	1,041,624	\$0 91	\$32,607,008
Wheat..... " ..	10,519,660	11	956,333	2 67	28,087,492
Rye..... " ..	6,569,690	13.6	483,065	1 17	7,686,537
Oats..... " ..	54,954,560	33	1,668,320	50	27,477,280
Barley..... " ..	621,574	22.3	27,873	1 09	677,515
Buckwheat..... " ..	9,718,728	21.4	454,146	96	9,329,979
Potatoes..... " ..	15,636,859	99.3	157,471	76	11,884,013
Tobacco..... pounds..	4,960,886	800	6,201	17	843,350
Hay..... tons.....	1,970,836	1.2	1,642,363	16 14	31,809,293
Total.....			6,437,396		150,402,467
DELAWARE.					
Indian corn bushels..	4,281,570	16	267,598	87	3,724,966
Wheat..... " ..	685,720	8	85,715	3 00	2,057,160
Rye..... " ..	41,853	9.5	4,406	1 33	55,664
Oats..... " ..	2,317,857	15	154,523	55	1,274,821
Barley..... " ..	5,973	8	746	1 00	5,973
Buckwheat..... " ..	17,205	27.5	626	1 37	23,570
Potatoes..... " ..	270,220	75	3,603	70	189,154
Tobacco..... pounds..					
Hay..... tons.....	26,820	1.1	24,382	17 50	469,350
Total.....			541,599		7,800,658
MARYLAND.					
Indian corn bushels..	15,024,176	30	500,806	93	13,972,483
Wheat..... " ..	4,383,708	9.7	451,929	2 94	12,888,101
Rye..... " ..	476,770	11	43,343	1 16	553,053
Oats..... " ..	7,056,145	26.6	265,269	55	3,880,880
Barley..... " ..	25,262	25	1,010	1 00	25,262
Buckwheat..... " ..	198,498	25	7,940	1 08	214,378
Potatoes..... " ..	1,401,832	70	20,026	80	1,121,465
Tobacco..... pounds..	29,963,672	693	43,237	10.3	3,086,258
Hay..... tons.....	181,341	1.3	139,493	20 27	3,675,782
Total.....			1,473,053		39,352,316
VIRGINIA.					
Indian corn bushels..	24,369,908	20	1,218,495	73	17,790,033
Wheat..... " ..	4,331,364	6.7	646,472	2 85	12,344,387
Rye..... " ..	698,453	9	77,606	1 06	740,360
Oats..... " ..	10,245,156	20	512,258	45	4,610,320
Barley..... " ..					
Buckwheat..... " ..	162,686	16.5	9,860	85	138,278
Potatoes..... " ..	1,592,166	83	19,183	66	1,050,830
Tobacco..... pounds..	114,480,516	718	159,444	13.7	15,683,830
Hay..... tons.....	203,698	1.3	156,691	14 28	2,908,807
Total.....			2,800,009		55,266,845

Table showing the amount of each principal crop, &c.—Continued.

Products.	Amount of crop of 1866.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
NORTH CAROLINA.					
Indian corn bushels..	21,656,566	12	1,804,714	\$1 12	\$24,255,354
Wheat..... " ..	2,846,223	5.8	490,728	2 72	7,741,727
Rye..... " ..	371,327	6.7	55,422	1 70	631,256
Oats..... " ..	2,948,771	14.3	206,208	71	2,092,627
Barley..... " ..	2,928				
Buckwheat..... " ..	29,098	16	1,819	1 32	38,409
Potatoes..... " ..	830,565	81	10,254	71	588,701
Tobacco..... pounds ..	39,423,900	683	57,722	20.5	8,081,399
Hay..... tons.....	163,229	1.3	125,561	13 00	2,121,977
Total.....			2,752,428		45,551,450
SOUTH CAROLINA.					
Indian corn bushels..	6,026,242	5.9	1,021,397	1 58	9,521,462
Wheat..... " ..	642,815	4.7	136,769	3 19	2,050,580
Rye..... " ..	53,454	5	10,691	1 98	105,839
Oats..... " ..	655,881	8.3	79,023	1 11	728,028
Barley..... " ..					
Buckwheat..... " ..					
Potatoes..... " ..	158,714	80	1,984	1 03	163,475
Tobacco..... pounds ..	52,206				
Hay..... tons.....	70,069	1	70,069	22 00	1,541,518
Total.....			1,319,933		14,110,902
GEORGIA.					
Indian corn bushels..	15,695,909	6.2	2,531,593	1 52	23,857,782
Wheat..... " ..	1,272,456	4	318,114	2 72	3,461,080
Rye..... " ..	69,319	4.8	14,441	1 34	92,887
Oats..... " ..	985,453	10.7	92,098	1 00	985,453
Barley..... " ..	11,745	8.2	1,432	1 84	21,611
Buckwheat..... " ..	1,922				
Potatoes..... " ..	258,221	62	4,165	77	198,830
Tobacco..... pounds ..	1,195,113	625	1,912	32	382,436
Hay..... tons.....	46,448	0.9	51,610	23 62	1,097,125
Total.....			3,015,370		30,097,204
FLORIDA.					
Indian corn bushels..	1,984,073	13.2	150,308	1 50	2,976,110
Wheat..... " ..					
Rye..... " ..	12,783				
Oats..... " ..	18,759	22.5	834	1 25	23,449
Barley..... " ..					
Buckwheat..... " ..					
Potatoes..... " ..	15,388	187	82	85	13,080
Tobacco..... pounds ..					
Hay..... tons.....	9,756	3	3,252	20 62	201,169
Total.....			154,476		3,213,808

Showing the amount of each principal crop, &c.—Continued.

Products.	Amount of crop of 1866.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
ALABAMA.					
Indian corn bushels..	21,597,083	9	2,399,676	\$1 51	\$32,611,595
Wheat..... “ ..	657,960	5.7	115,432	2 34	1,539,626
Rye..... “ ..	43,474	6.5	6,673	2 12	92,165
Oats..... “ ..	497,990	11.4	43,683	1 05	522,890
Barley..... “ ..	9,333	9	1,042	1 87	17,546
Buckwheat..... “ ..					
Potatoes..... “ ..	422,815	107	3,951	79	334,024
Tobacco..... pounds ..	349,371	322	1,085	31	108,305
Hay..... tons.....	80,854	1	80,854	18 63	1,506,310
Total.....			2,652,396		36,732,461
MISSISSIPPI.					
Indian corn..... bushels..	11,913,650	14.5	821,631	1 57	18,704,430
Wheat..... “ ..	258,687	5	51,737	2 53	654,478
Rye..... “ ..	23,684	7.6	3,116	2 03	48,078
Oats..... “ ..	101,768	10.4	9,785	1 09	110,927
Barley..... “ ..	1,060	14	76	2 08	2,205
Buckwheat..... “ ..	1,700				
Potatoes..... “ ..	385,318	76	5,070	64	246,604
Tobacco..... pounds ..	165,507	250	662	30	49,652
Hay..... tons.....	29,611	.87	34,035	27 50	814,302
Total.....			926,112		20,630,676
LOUISIANA.					
Indian corn bushels..	6,910,035	17	406,473	1 23	8,499,343
Wheat..... “ ..		6		2 50	
Rye..... “ ..		5		2 50	
Oats..... “ ..	89,377				
Barley..... “ ..					
Buckwheat..... “ ..					
Potatoes..... “ ..	206,258	85	2,426	1 21	249,572
Tobacco..... pounds ..	59,910	400	156	40	23,964
Hay..... tons.....	36,900			30 00	1,107,000
Total.....					
TEXAS.					
Indian corn bushels..	29,295,863	26	780,610	94	19,078,111
Wheat..... “ ..	1,847,931	12	153,994	1 45	2,679,500
Rye..... “ ..	123,046	17	7,238	1 08	132,890
Oats..... “ ..	1,084,478	25.5	42,528	86	932,651
Barley..... “ ..	60,805	23	2,643	97	58,981
Buckwheat..... “ ..					
Potatoes..... “ ..	250,822	131	1,915	70	175,575
Tobacco..... pounds ..	127,288	829	153	21	26,730
Hay..... tons.....	15,543	1.5	10,366	13 60	211,385
Total.....			999,447		23,295,823

Showing the amount of each principal crop, &c.—Continued.

Products.	Amount of crop of 1866.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
ARKANSAS.					
Indian corn bushels..	11,585,332	24	482,722	\$1 14	\$13,207,278
Wheat..... “ ..	584,137	6.5	89,867	2 06	1,203,322
Rye..... “ ..	39,046	10	3,904	1 67	65,207
Oats..... “ ..	308,924	13	23,763	94	290,389
Barley..... “ ..	4,737	12.5	379	1 50	7,105
Buckwheat..... “ ..		15		2 00	
Potatoes..... “ ..	263,346	107		81	213,310
Tobacco..... pounds ..	1,425,571	650	2,193	32	456,183
Hay..... tons.....	7,578	1.3	5,830	26 43	200,287
Total.....			608,658		15,643,084
TENNESSEE.					
Indian corn..... bushels..	46,880,933	22	2,130,951	77	36,098,318
Wheat..... “ ..	3,985,265	5.3	751,937	2 21	8,807,435
Rye..... “ ..	232,190	8.2	28,315	1 18	273,984
Oats..... “ ..	2,970,836	20	148,542	51	1,515,126
Barley..... “ ..	20,115	23.2	867	1 39	27,960
Buckwheat..... “ ..	13,322	15	888	1 17	15,587
Potatoes..... “ ..	1,501,146	72	20,849	72	1,080,825
Tobacco..... pounds ..	46,054,983	712	64,684	21	9,671,546
Hay..... tons.....	140,580	1.4	100,414	18 63	2,619,000
Total.....			3,247,447		60,109,781
KENTUCKY.					
Indian corn..... bushels..	65,564,630	31.8	2,061,781	49	32,126,669
Wheat..... “ ..	2,063,256	6.5	317,427	2 30	4,745,489
Rye..... “ ..	419,237	9.3	45,035	1 12	469,601
Oats..... “ ..	5,644,573	21.8	258,925	48	2,709,395
Barley..... “ ..	137,516	13.5	10,186	1 37	188,397
Buckwheat..... “ ..	14,421	17.5	824	1 17	16,873
Potatoes..... “ ..	1,786,200	88	20,298	67	1,196,754
Tobacco..... pounds ..	61,683,856	755	81,700	9.5	5,859,966
Hay..... tons.....	115,844	1.37	84,558	12 80	1,482,803
Total.....			2,880,781		48,795,947
MISSOURI.					
Indian corn..... bushels..	46,819,543	30.8	1,520,115	58	27,155,335
Wheat..... “ ..	3,544,036	16.5	214,790	2 01	7,123,512
Rye..... “ ..	222,899	19.8	11,258	97	216,212
Oats..... “ ..	3,451,400	30.7	112,423	44	1,518,616
Barley..... “ ..	156,297	25.5	6,139	1 03	160,986
Buckwheat..... “ ..	63,113	21	3,244	93	63,345
Potatoes..... “ ..	1,059,323	92.3	11,477	79	836,865
Tobacco..... pounds ..	12,952,285	877	14,768	11	1,424,751
Hay..... tons.....	654,544	1.9	344,497	9 91	6,486,531
Total.....			2,238,711		44,986,153

Showing the amount of each principal crop, &c.—Continued.

Products.	Amount of crop of 1866.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
ILLINOIS.					
Indian corn bushels..	155,844,350	31.6	4,931,783	\$0 43	\$67,013,070
Wheat..... " ..	28,551,421	13	2,196,263	1 93	55,104,243
Rye..... " ..	666,455	15.6	42,721	79	526,500
Oats..... " ..	30,054,370	34	883,952	33	9,917,942
Barley..... " ..	1,037,753	25	41,510	68	705,672
Buckwheat..... " ..	273,010	16.8	16,250	1 07	292,121
Potatoes..... " ..	5,102,035	86.5	58,983	64	3,265,302
Tobacco..... pounds ..	17,546,981	686	25,578	9.3	1,631,470
Hay..... tons.....	2,340,063	1.47	1,591,880	9 27	21,692,384
Total.....			9,788,920		160,148,704
INDIANA.					
Indian corn bushels..	127,676,247	36.5	3,497,980	44	56,177,548
Wheat..... " ..	9,114,562	5.9	1,544,841	2 41	21,966,094
Rye..... " ..	345,144	12.2	28,290	1 03	355,493
Oats..... " ..	10,158,562	29.3	346,709	35	3,555,497
Barley..... " ..	339,474	19	17,867	1 07	363,237
Buckwheat..... " ..	443,094	19	23,321	1 02	451,956
Potatoes..... " ..	3,774,226	79.3	47,594	57	2,151,309
Tobacco..... pounds ..	8,205,973	837	9,804	8.4	689,302
Hay..... tons.....	1,088,932	1.23	885,310	9 44	10,279,518
Total.....			6,401,716		95,989,959
OHIO.					
Indian corn bushels..	99,766,822	38	2,625,443	54	53,874,084
Wheat..... " ..	10,208,854	4.5	2,430,680	2 52	25,726,312
Rye..... " ..	591,121	10.8	54,733	1 09	644,322
Oats..... " ..	22,187,420	32.2	689,050	40	8,874,963
Barley..... " ..	1,294,139	19.5	66,366	1 14	1,475,318
Buckwheat..... " ..	1,705,785	18.5	92,205	1 10	1,876,363
Potatoes..... " ..	4,516,640	78	57,905	77	3,471,813
Tobacco..... pounds ..	25,593,815	860	29,760	6.7	1,714,785
Hay..... tons.....	1,963,799	1.3	1,510,615	11 00	21,601,789
Total.....			7,556,757		119,265,754
MICHIGAN.					
Indian corn bushels..	16,118,680	32	503,709	82	13,217,318
Wheat..... " ..	14,740,639	13.8	1,068,162	2 55	37,588,630
Rye..... " ..	413,150	15.5	26,655	1 06	437,939
Oats..... " ..	8,293,877	34.7	236,135	47	3,898,132
Barley..... " ..	418,971	25	16,759	1 02	427,350
Buckwheat..... " ..	1,306,819	20	65,341	98	1,280,683
Potatoes..... " ..	5,037,298	110	45,793	56	2,820,877
Tobacco..... pounds ..	278,786	1200	232	15	41,818
Hay..... tons.....	1,218,959	1.3	937,661	13 75	16,760,686
Total.....			2,900,447		76,473,423

Showing the amount of each principal crop, &c.—Continued.

Products.	Amount of crop of 1866.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
WISCONSIN.					
Indian corn.....bushels..	9,414,583	28.3	332,671	\$0 82	7,719,958
Wheat.....“ ..	20,307,920	14.5	1,400,546	1 67	33,914,226
Rye.....“ ..	926,492	16.6	55,813	88	815,313
Oats.....“ ..	17,174,086	33.3	515,738	54	9,274,006
Barley.....“ ..	860,521	25.2	34,148	90	774,469
Buckwheat.....“ ..	69,227	16	4,327	86	59,535
Potatoes.....“ ..	3,940,273	91	43,300	64	2,521,775
Tobacco.....pounds ..	143,344	900	160	20	28,669
Hay.....tons.....	1,151,477	1.3	885,752	12 25	14,105,593
Total.....			3,272,455		69,213,544
IOWA.					
Indian corn.....bushels..	52,288,184	31.5	1,659,942	44	23,006,801
Wheat.....“ ..	15,753,323	16	984,583	1 42	22,369,718
Rye.....“ ..	116,946	19.3	6,060	69	80,693
Oats.....“ ..	12,607,749	37.8	333,538	39	4,917,022
Barley.....“ ..	622,784	25.4	24,520	67	417,265
Buckwheat.....“ ..	283,714	16	17,732	1 01	286,551
Potatoes.....“ ..	2,755,726	72	38,275	89	2,452,596
Tobacco.....pounds ..	390,424	988	395	20	78,085
Hay.....tons.....	1,161,039	1.9	611,073	6 20	7,198,442
Total.....			3,676,118		60,807,173
KANSAS.					
Indian corn.....bushels..	6,527,358	34.2	190,858	63	4,112,235
Wheat.....“ ..	260,465	21.4	12,171	1 91	497,488
Rye.....“ ..	4,548	26.4	172	96	4,366
Oats.....“ ..	200,316	39	5,136	47	94,148
Barley.....“ ..	7,255	29	250	94	6,820
Buckwheat.....“ ..	20,402	28	728	1 54	31,420
Potatoes.....“ ..	243,514	81	3,006	1 59	387,187
Tobacco.....pounds ..	22,263	550	41	29	6,456
Hay.....tons.....	123,082	2	61,541	7 18	883,729
Total.....			273,903		6,023,849
NEBRASKA.					
Indian corn.....bushels..	2,095,030	29.3	71,503	68	1,424,620
Wheat.....“ ..	257,839	26	9,917	1 23	317,142
Rye.....“ ..	2,225	26	86	92	2,047
Oats.....“ ..	450,138	47.2	9,537	46	207,063
Barley.....“ ..	8,184	35.3	232	84	6,875
Buckwheat.....“ ..	6,453	26	248	1 85	11,908
Potatoes.....“ ..	120,319	49	2,455	1 75	210,553
Tobacco.....pounds ..	1,550	430	3	24	372
Hay.....tons.....	29,720	1.5	19,813	6 43	191,100
Total.....			113,794		2,371,685

Summary for each State, showing the amount, the number of acres, and the value of each crop, for 1866.

States.	INDIAN CORN.			WHEAT.			RYE.		
	Bushels.	Acres.	Value of crop.	Bushels.	Acres.	Value of crop.	Bushels.	Acres.	Value of crop.
Maine	1,624,289	49,219	\$2,192,723	193,150	15,208	\$552,409	156,649	9,215	\$217,742
New Hampshire	1,321,281	41,290	1,810,155	305,653	18,468	788,585	161,559	10,097	224,567
Vermont	1,490,975	44,774	2,102,275	614,692	30,430	1,641,228	154,783	8,367	233,722
Massachusetts	2,363,245	69,507	3,163,748	160,123	6,563	445,142	401,538	23,345	554,122
Rhode Island	408,293	14,956	2,579,776	1,413	94	3,956	32,658	1,855	47,028
Connecticut	2,220,502	67,288	2,977,832	71,881	4,155	203,423	776,030	59,695	1,154,045
New York	92,809,893	844,811	26,439,475	12,556,406	826,079	33,525,604	5,309,874	325,759	6,424,947
New Jersey	1,539,223	220,305	9,825,400	1,278,347	94,692	3,745,557	1,408,497	100,607	1,774,706
Pennsylvania	35,831,877	1,041,624	32,607,008	10,519,660	956,333	28,087,492	6,569,690	483,065	7,686,537
Delaware	4,281,570	267,598	3,724,966	685,720	85,715	2,057,160	41,853	4,406	55,664
Maryland	15,024,176	500,806	13,972,483	4,383,708	451,929	12,888,101	476,770	43,343	553,053
Virginia	24,369,908	1,218,495	17,790,033	4,331,364	646,472	12,314,387	698,453	77,606	740,360
North Carolina	21,656,566	1,804,714	24,255,354	2,846,223	490,728	7,741,727	371,327	55,422	631,256
South Carolina	6,026,242	1,021,397	9,521,462	642,815	136,769	2,050,580	53,454	10,691	105,839
Georgia	15,695,909	2,531,598	23,857,782	1,272,456	318,114	3,461,080	69,319	14,441	92,887
Florida	1,984,073	150,308	2,976,110	657,960	115,432	1,539,626	12,783	6,673	92,165
Alabama	21,597,083	2,389,676	32,611,595	258,657	51,737	654,478	43,474	3,116	48,078
Mississippi	11,913,650	821,631	18,704,430	.....	.....	.....	.....	.....	.....
Louisiana	6,910,035	406,473	8,499,343	.....	.....	.....	.....	.....	.....
Texas	20,295,863	780,610	19,078,111	1,847,931	153,994	2,670,500	123,046	7,238	132,890
Arkansas	11,585,332	482,722	13,207,278	564,137	89,867	1,203,322	39,046	3,904	65,207
Tennessee	46,880,933	2,130,951	36,098,318	3,985,256	751,937	8,807,435	232,190	28,315	273,984
Kentucky	55,564,630	2,061,781	32,123,619	2,063,256	317,427	4,745,489	419,287	45,085	469,601
Missouri	46,819,543	1,520,115	27,155,335	3,544,036	214,790	7,123,512	222,899	11,258	216,212
Illinois	155,844,350	4,931,783	67,013,070	28,551,421	2,196,263	55,104,243	666,455	42,721	526,500
Indiana	127,676,247	3,497,980	56,177,548	9,114,562	1,544,841	21,966,091	345,144	28,290	355,498
Ohio	99,766,822	2,625,443	53,874,084	10,208,854	2,430,680	25,726,312	591,121	54,733	644,322
Michigan	16,118,680	503,709	13,217,318	14,740,639	1,068,162	37,588,630	413,150	26,655	437,939
Wisconsin	9,414,583	332,671	7,719,958	20,307,920	1,000,546	33,914,226	926,492	55,813	815,313
Iowa	52,288,184	1,659,942	23,006,801	15,753,323	994,583	22,360,718	116,946	6,060	80,693
Kansas	6,527,358	190,858	4,112,235	260,465	12,171	497,488	4,548	172	4,366
Nebraska	2,095,030	71,503	1,424,620	257,839	9,917	317,142	2,225	86	2,047
	867,946,295	34,306,538	591,666,295	151,999,906	15,424,496	333,773,646	20,864,944	1,548,033	24,661,290

Summary for each State, showing the amount, the number of acres, and the value of each crop, for 1866—Continued.

States.	OATS.			BARLEY.			BUCKWHEAT.		
	Bushels.	Acres.	Value of crop.	Bushels.	Acres.	Value of crop.	Bushels.	Acres.	Value of crop.
Maine.....	2,653,626	95,799	\$1,831,002	742,619	30,943	\$757,471	367,384	11,851	\$330,646
New Hampshire.....	1,481,018	50,720	1,007,092	105,038	4,202	124,995	76,455	3,475	82,571
Vermont.....	4,846,015	120,249	3,352,989	104,399	3,600	128,400	225,252	7,508	225,252
Massachusetts.....	1,278,465	43,783	971,633	144,598	6,573	183,659	101,946	4,997	103,985
Rhode Island.....	154,222	4,406	112,582	35,031	1,237	40,250			
Connecticut.....	2,741,448	85,670	1,946,428	19,200	817	24,384	348,632	23,242	341,660
New York.....	54,029,350	1,637,253	32,957,903	4,459,288	189,757	4,726,845	6,476,597	247,198	5,958,469
New Jersey.....	6,498,487	186,362	3,964,077	27,167	1,358	27,167	861,376	47,854	990,582
Pennsylvania.....	54,954,560	1,668,320	27,477,280	631,574	27,873	677,515	9,718,728	454,146	9,329,979
Delaware.....	2,317,857	154,523	1,274,821	5,973	746	5,973	17,205	626	23,570
Maryland.....	7,056,145	206,269	3,880,880	25,262	1,010	25,262	198,498	7,940	214,378
Virginia.....	10,245,156	512,258	4,610,320				162,656	9,860	138,278
North Carolina.....	2,948,771	206,208	2,092,627	2,928			29,098	1,819	38,409
South Carolina.....	656,881	79,023	726,028						
Georgia.....	985,453	92,098	985,453						
Florida.....	18,759	834	23,449	11,745	1,432	21,611	1,932		
Alabama.....	497,990	43,683	522,890	9,383	1,042	17,546			
Mississippi.....	101,768	9,785	116,927	1,060	76	2,205	1,700		
Louisiana.....	89,377								
Texas.....	1,084,478	42,528	932,651	60,805	2,613	58,981			
Arkansas.....	308,924	23,763	290,339	4,737	379	7,105			
Tennessee.....	2,970,836	148,542	1,515,126	20,115	867	27,960			
Kentucky.....	5,644,573	258,925	2,709,395	137,516	10,186	188,397	13,322	888	15,587
Missouri.....	3,451,400	112,423	1,518,616	156,297	6,139	160,986	63,113	824	16,873
Illinois.....	30,054,370	883,952	9,917,942	1,037,753	41,510	705,672	273,010	3,244	63,345
Indiana.....	10,158,562	346,709	3,555,497	339,474	17,807	363,237	443,094	16,250	292,121
Ohio.....	22,187,420	689,050	8,874,968	1,294,139	65,366	1,475,318	1,705,785	23,321	451,956
Michigan.....	8,293,877	236,135	3,898,122	418,971	16,759	427,350	1,306,819	92,205	1,876,363
Wisconsin.....	17,174,086	515,738	9,274,006	800,521	34,148	774,469	4,327	63,311	1,290,633
Iowa.....	12,607,749	333,538	4,917,022	622,784	24,520	417,265	19,227	4,327	59,535
Kansas.....	200,316	5,136	94,148	7,255	250	6,820	20,402	17,732	286,551
Nebraska.....	450,138	9,537	207,063	8,184	232	6,875	6,463	728	31,420
	268,141,077	8,864,219	135,255,326	11,233,807	492,532	11,353,698	22,791,839	1,045,624	22,164,121

Summary for each State, showing the amount, the number of acres, and the value of each crop, for 1866—Continued.

States.	POTATOES.			TOBACCO.			HAY.		
	Bushels.	Acres.	Value of crop.	Pounds.	Acres.	Value of crop.	Tons.	Acres.	Value of crop*
Maine.....	6, 146, 725	39, 402	\$3, 134, 830	.....	.....	.....	957, 772	1, 197, 215	\$18, 465, 844
New Hampshire.....	3, 632, 860	27, 976	1, 809, 501	.....	.....	.....	665, 385	792, 137	11, 897, 263
Vermont.....	5, 305, 045	35, 845	2, 251, 169	59, 000	.....	.....	862, 878	862, 878	13, 469, 525
Massachusetts.....	3, 351, 030	24, 103	2, 312, 211	5, 171, 400	.....	\$1, 034, 280	742, 872	742, 872	21, 090, 136
Rhode Island.....	499, 440	4, 757	399, 552	1, 035	.....	.....	53, 379	53, 379	1, 689, 979
Connecticut.....	1, 480, 208	13, 580	1, 199, 017	7, 840, 974	6, 534	1, 528, 990	536, 527	383, 233	13, 735, 991
New York.....	31, 156, 676	291, 184	21, 498, 106	9, 824, 384	13, 683	1, 326, 291	4, 759, 516	3, 966, 264	77, 008, 969
New Jersey.....	4, 039, 708	52, 464	3, 474, 149	153, 691	.....	.....	369, 566	293, 306	9, 239, 150
Pennsylvania.....	15, 636, 859	157, 471	11, 884, 013	4, 960, 886	6, 201	843, 350	1, 970, 836	1, 242, 363	31, 869, 293
Delaware.....	270, 230	3, 603	189, 154	.....	.....	.....	26, 820	24, 382	469, 350
Maryland.....	1, 401, 832	20, 026	1, 121, 465	29, 963, 672	43, 237	3, 086, 258	181, 341	139, 493	3, 675, 782
Virginia.....	1, 532, 166	19, 183	1, 050, 830	114, 480, 516	159, 444	15, 683, 830	203, 698	156, 691	2, 908, 807
North Carolina.....	830, 565	10, 254	588, 701	39, 423, 900	57, 722	8, 081, 399	163, 229	125, 561	2, 121, 977
South Carolina.....	158, 714	1, 984	163, 475	52, 206	.....	.....	70, 069	70, 069	1, 541, 518
Georgia.....	258, 221	4, 165	198, 830	1, 195, 113	1, 912	382, 436	46, 448	51, 610	1, 097, 125
Florida.....	15, 358	82	13, 080	.....	.....	.....	9, 756	3, 252	201, 169
Alabama.....	422, 815	3, 951	334, 024	349, 371	1, 085	108, 305	80, 854	80, 854	1, 506, 310
Mississippi.....	385, 318	5, 070	246, 604	165, 507	662	49, 652	29, 611	.....	814, 302
Louisiana.....	206, 258	2, 426	249, 572	59, 910	156	23, 964	36, 900	34, 635	1, 107, 000
Texas.....	250, 822	1, 915	175, 575	127, 288	153	26, 730	15, 543	.....	211, 385
Arkansas.....	265, 346	.....	213, 310	1, 425, 571	2, 193	456, 183	7, 578	10, 366	200, 287
Tennessee.....	1, 501, 146	20, 849	1, 080, 825	46, 054, 983	64, 684	9, 671, 546	140, 580	100, 414	2, 619, 000
Kentucky.....	1, 786, 200	20, 208	1, 196, 754	61, 683, 856	81, 700	5, 859, 966	115, 844	84, 558	1, 482, 803
Missouri.....	1, 635, 323	11, 477	836, 865	12, 952, 285	14, 768	1, 424, 751	654, 544	344, 497	6, 486, 531
Illinois.....	5, 102, 035	58, 983	3, 205, 302	17, 546, 981	25, 578	1, 631, 470	2, 340, 063	1, 591, 880	21, 692, 384
Indiana.....	3, 774, 226	47, 594	2, 151, 309	8, 205, 973	9, 804	689, 302	1, 088, 932	885, 310	10, 279, 518
Ohio.....	4, 516, 640	57, 905	3, 477, 813	25, 593, 815	29, 760	1, 714, 785	1, 963, 799	1, 510, 615	21, 601, 789
Michigan.....	5, 037, 298	45, 793	2, 820, 877	278, 786	232	41, 818	1, 218, 959	937, 661	16, 760, 686
Wisconsin.....	3, 940, 273	43, 300	2, 521, 775	143, 344	160	28, 669*	1, 151, 477	885, 752	14, 105, 593
.....	2, 755, 726	32, 275	2, 452, 596	390, 424	395	78, 056	1, 161, 039	611, 073	7, 198, 442
.....	243, 514	3, 005	387, 187	22, 263	41	6, 455	123, 082	61, 541	883, 729
.....	120, 319	2, 455	210, 558	1, 550	3	.....	29, 720	19, 813	191, 100
.....	107, 200, 976	1, 069, 381	72, 939, 029	388, 128, 684	520, 107	53, 778, 888	21, 778, 627	17, 668, 904	317, 561, 837

METEOROLOGY.

[Compiled in the Department of Agriculture from reports made by observers for the Smithsonian Institution.]

MARCH, 1867.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and amount of rain, (in inches and tenths,) for March, 1867, at the following places, as given by the observers named. Daily observations were made at the hours of 7 a. m. and 2 and 9 p. m.

[illegible]

Table showing the range of the thermometer, &c., for March—Continued.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain or melted snow.
MASSACHUSETTS.								
Kingston	Plymouth	G. S. Newcomb	31	55	15	13	31.0	4.75
Topsfield	Essex	S. A. Merriam	31	56	15	19	36.4	4.28
Lawrence	do	John Fallon	31	51	14	9	30.0	4.13
Newbury	do	John H. Caldwell	31	59	15	10	31.7	.....
North Billerica	Middlesex	Rev. E. Nason	11	53	15	10	31.2	.....
West Newton	do	John H. Bixby	2, 31	56	15	10	32.5	.....
New Bedford	Bristol	Samuel Rodman	31	58	3, 15	18	33.5	5.31
Do	do	Edward T. Tucker	31	59	15	18	34.3	6.08
Worcester	Worcester	Joseph Draper, M.D.	31	52	15	13	31.9	4.40
Mendon	do	J. G. Metcalf, M. D.	31	51	15	9	29.1	.....
Lunenburg	do	G. A. Cunningham	24	53	15	7	30.7	2.59
Amherst	Hampshire	Prof. E. S. Snell	31	53	15	11	30.8	3.14
Richmond	Berkshire	Wm. Bacon	31	52	15	8	31.3	6.25
Williams College	do	Prof. A. Hopkins	31	51	3	10	30.1	1.38
Averages .....	.....	.....	.....	.....	.....	.....	31.8	4.23
RHODE ISLAND.								
Newport	Newport	Wm. H. Crandall	31	52	15	14	32.9	6.47
CONNECTICUT.								
Pomfret	Windham	Rev. D. Hunt	31	53	15	11	29.9	2.51
Columbia	Tolland	Wm. H. Yeomans	2	50	15	16	31.9	.....
Middletown	Middlesex	Prof. J. & A. Johnston	31	65	15	15	33.4	3.51
Colebrook	Litchfield	Charlotte Rockwell	24, 31	53	15	14	26.9	.....
Groton	New London	Rev. E. Dewhurst	4	54	15, 19	18	34.0	4.19
Averages .....	.....	.....	.....	.....	.....	.....	32.2	3.40
NEW YORK.								
Moriches	Suffolk	E. A. Smith & daugh's	31	69	19	15	38.3	5.35
South Hartford	Washington	G. M. Ingalsbe	11, 31	58	19	5	31.4	1.95
Germantown	Columbia	Rev. S. W. Roe	31	63	3	13	32.8	6.40
Garrison's	Putnam	Thomas B. Arden	31	60	15	15	34.0	2.59
Throg's Neck	Westchester	Miss E. Morris	31	56	15	17	34.9	.....
Deaf & Dumb Inst.	New York	Prof. O. W. Morris	31	58	15	16	34.3	4.09
Columbia College	do	Prof. Chas. A. Joy	31	59	15	17	33.7	3.29
St. Xavier's College	do	Rev. J. M. Aubier	31	62	15	19	35.3	3.45
Flatbush	Kings	Eli T. Mack	31	62	15	15	34.1	2.12
Newburgh	Orange	Jas. H. Gardiner	31	62	19	17	33.7	2.11
Gouverneur	St. Lawrence	C. H. Russell	24	57	3, 8, 19	0	25.9	1.49
South Trenton	Oneida	Storrs Barrows	1, 6, 23	40	3, 20	4	25.6	5.30
Cazenovia	Madison	Prof. Wm. Soule	31	52	3	3	29.2	1.63
Houseville	Lewis	Walter D. Yale	22, 23	52	3	1	27.3	2.11
Depauville	Jefferson	Henry Haas	23	46	3	5	28.7	3.24
Theresa	do	S. O. Gregory .....	.....	.....	.....	.....	.....	2.37
Oswego	Oswego	Wm. S. Malcolm	1	46	3	9	31.2	2.65
Palermo	do	E. B. Bartlett	31	48	3	5	26.7	2.95
Baldwinsville	Onondaga	John Bowman	31	45	3	11	29.6	1.90
Skaneateles	do	W. M. Beauchamp	31	52	18	11	30.6	.....
Nichols	Tioga	Robert Howell	31	59	18, 19	10	32.0	.....
Geneva	Ontario	Rev. W. D. Wilson	1, 31	48	14, 18	12	30.7	0.66
Rochester	Monroe	M. M. Mathews, M.D.	1	53	15	10	29.5	2.08
Rochester University	do	Prof. C. Dewey	1	53	15, 18, 19	10	29.4	2.08

Table showing the range of the thermometer, &c., for March—Continued.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain or melted snow.
VIRGINIA.								
Lynchburg	Bedford	Chas. J. Meriweather	11	64	15	28	42.8	In.
Cape Charles L. h'se.	Northampton	Jean G. Potts	2	62	15, 19	26	39.7	7.27
Averages							41.3	7.27
WEST VIRGINIA.								
Cabell Court-house ..	Cabell	C. L. Roffe	1	64	14	20	42.0	5.60
Grafton	Taylor	Dr. W. H. Sharp ..	31	62	15, 18	10	40.7	11.25
Weston	Lewis	Benjamin Owen ..	12, 24	63	18	10	40.5	.....
Averages							41.1	8.43
NORTH CAROLINA.								
Goldsboro'	Wayne	E. W. Adams, A. M.	2, 4	84	15	30	48.3	9.63
Oxford	Granville	J. H. Mills	2, 11	69	16	25	44.8	2.19
Raleigh	Wake	Rev. F. P. Brewer ..	2	77	15, 16	28	45.2	6.10
Statesville	Iredell	Thos. A. Allison ..	2	74	18	23	41.8	10.00
Albemarle	Stanley	F. J. Kron	2	76	18	22	45.7	8.89
Averages							45.2	7.36
SOUTH CAROLINA.								
Aiken	Barnwell	Rev. Jno. H. Cornish	3	76	15, 16	30	49.7	5.11
GEORGIA.								
Atlanta	Fulton	Frederick Deckner ..	4	80	14	28	48.0	5.74
ALABAMA.								
Moulton	Lawrence	Thomas M. Peters ..	1, 2, 3	70	14	21	47.4	8.65
Prairie Bluff	Wilcox	William Henderson ..	2	84	14	28	57.8	.....
Opelika	Lee	J. H. Shields	4	84	17	33	54.2	.....
Havana	Hale	J. W. A. Wright ..	2	83	14	24	54.3	8.77
Averages							53.4	8.71
FLORIDA.								
Fernandina	Nassau	H. M. Corey	3, 12	82	16	40	60.1	4.45
Gordon	Alachua	H. B. Scott	6	88	18	43	66.4	.....
Averages							63.3	4.45
TEXAS.								
Austin	Travis	J. Van Nostrand ..	1	85	13, 14	21	51.5	1.48
LOUISIANA.								
Vidalia	Concordia	Rev. A. K. Teele ..	12	84	14	27	56.3	.....
MISSISSIPPI.								
Fayette	Jefferson	Rev. T. H. Cleland ..	3	81	14	23	52.1	.....
Natchez	Adams	William McCary ..	2, 3	79	14	24	54.9	5.05
Kingston	do	J. Edwards Smith ..	3	81	14	27	55.2	3.50
Grenada	Yalabusha	Albert Moore			14	20	.....	.....
Averages							54.1	4.28
ARKANSAS.								
Fort Smith	Sebastian	Rev. Frs. Springer ..	1	80	14	10	40.3	.....

Table showing the range of the thermometer, &c., for March—Continued.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain or melted snow.
TENNESSEE.								
Tusculum College ..	Green	S. S. & W. S. Doak.	11	69	14	26	44.2	In.
Lookout Mountain ..	Hamilton	Edw. F. Williams...	1, 3	71	14	15	45.2	.....
Clarksville	Montgomery	Pf. Wm. M. Stewart	1	74	14	11	39.9	8.28
Averages .....	.....	.....	.....	.....	.....	.....	43.1	8.28
KENTUCKY.								
Louisville	Jefferson	Mrs. L. Young	1	64	14	10	37.4	6.61
Chilesburg	Fayette	Dr. S. D. Martin	1, 24	64	14	12	37.4	8.61
Danville	Boyle	O. Beatty	24	65	14	14	40.3	10.25
Averages .....	.....	.....	.....	.....	.....	.....	38.4	8.49
OHIO.								
New Lisbon	Columbiana	J. F. Benner	1, 2, 4, 31	56	18	— 1	32.5	4.91
East Fairfield .....	.....do.....	S. B. McMillan	31	55	19	6	31.7	2.98
Martin's Ferry	Belmont	Chas. R. Shreve	31	64	18	10	37.3	.....
Painesville	Lake	E. J. Ferris	31	56	14, 18	6	29.8	.....
Milnersville	Guernsey	Rev. D. Thompson	1	58	18	— 3	32.6	1.72
Cleveland	Cuyahoga	T. A. Smurr, M. D. ..	1	58	14	10	32.3	.....
Do .....	.....do.....	Mr. and Mrs. G. A. Hyde.	1	58	15	9	31.6	2.73
Wooster	Wayne	Martin Winger	31	63	18	6	32.7	.....
Kelley's Island	Erie	Geo. C. Huntington ..	31	54	14	9	31.1	1.98
Norwalk	Huron	Rev. A. Newton	31	60	14	8	31.5	1.62
North Fairfield .....	.....do.....	O. Burras	31	61	14, 15, 19	6	31.3	2.95
Westerville	Franklin	Prof. H. A. Thompson	31	58	14	10	35.0	3.79
Kingston	Ross	Prof. John Haywood	10	60	14	10	34.9	3.11
Toledo	Lucas	J. B. Trembly, M. D. ..	1	57	14	5	30.8	2.13
Marion	Marion	H. A. True, M. D.	1	55	18	2	30.6	2.79
Kenton	Hardin	C. H. Smith, M. D.	31	52	14	26	36.3	2.94
Urbana University ..	Champaign	M. G. Williams	1	57	18	4	31.7	3.08
Hillsborough	Highland	J. McD. Mathews	1, 10	58	14	8	33.6	3.04
Bethel	Clermont	George W. Crane	10	58	14	8	33.7	2.00
Cincinnati	Hamilton	George W. Harper	1, 10	59	14	8	36.0	2.71
Do .....	.....do.....	R. C. Phillips	1, 29	60	14	15	39.9	1.93
College Hill .....	.....do.....	John W. Hammitt	10	59	14, 18	8	34.2	3.00
Farm School .....	.....do.....	L. B. Tuckerman	1	59	14	8	34.3	3.03
Averages .....	.....	.....	.....	.....	.....	.....	33.3	2.76
MICHIGAN.								
Monroe City	Monroe	F. & E. Whelpley	1	54	15	3	29.9	1.54
State Agricult'l Col.	Ingham	Prof. R. C. Kedzie	31	56	14	2	29.7	0.68
Litchfield	Hillsdale	R. Bullard	1, 10, 31	48	14	0	26.8	1.53
Grand Rapids	Kent	E. S. Holmes, D. D. S. ..	22	52	13	7	28.2	.....
Northport	Leelenaw	Rev. Geo. N. Smith	31	50	14	6	26.0	.....
Alpena	Alpena	J. W. Paxton	31	41	13, 14	6	26.7	2.66
Holland	Ottawa	L. H. Streng	1	51	13, 14	11	30.4	1.71
Ontonagon	Ontonagon	Edwin Ellis, M. D.	30	46	14	—12	14.8	.....
Homestead	Benzie	George E. Steele	31	52	6	3	26.7	.....
Averages .....	.....	.....	.....	.....	.....	.....	26.6	1.62

Table showing the range of the thermometer, &c., for March—Continued.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean. temp.	Rain or melted snow.
MINNESOTA.								
Afton	Washington	Dr. and Mrs. B. F. Babcock.	20	47	14	-18	15.4	In.
St. Paul	Ramsey	Rev. A. B. Paterson.	20	42	13	-22	13.2	1.00
Sibley	Sibley	C.E. and C.W. Woodbury.	20	40	11, 13	-20	8.1	1.17
New Uln.	Brown	Charles Roos	20	46	5, 12	-15	11.5	0.94
Averages							12.1	1.04
IOWA.								
Clinton	Clinton	Dr. P. J. Farnsworth	24, 28, 31	42	14	-8	26.5	6.00
Lyons	do	A. T. Hudson	1	54	13, 17	-7	24.7	1.47
Davenport	Scott	Sydney Smith	1, 22	45	14	-8	24.5	3.00
Dubuque	Dubuque	Asa Horr, M. D.	22	45	14, 17	-7	26.0	2.02
Atalissa	Muscatine	B. Carpenter	22	49	13, 14	-5	24.6	2.53
Monticello	Jones	M. M. Moulton	22	47	13, 14	-2	24.6	1.35
Fort Madison	Lee	Daniel McCready	1	52	14	-12	27.5	3.37
Guttenburg	Clayton	Jas. P. Dickerson	22, 31	49	14	-20	21.1	1.75
Ceres	do	J. M. Hagensick	22	50	14	-10	24.8	.....
Mount Vernon	Linn	Prof. A. Collins	22	51	14	-15	22.7	.....
Iowa City	Johnson	Prof. T. S. Parvin	22	47	13	-13	25.7	2.50
Independence	Buchanan	Mrs. D. B. Wheaton	22	50	14	-26	18.8	3.00
Do	do	D. S. Deering	20	43	14	-16	20.7	.....
Waterloo	Black Hawk	T. Steed	21	44	14	-20	20.4	.....
Iowa Falls	Hardin	N. Townsend	1	40	14	-19	15.4	3.17
Algona	Kossuth	Philip Dorweiler	6	36	14	-25	9.2	.....
Fontanelle	Adair	A. F. Bryant	31	52	13	-17	18.0	1.30
Harris Grove	Harrison	Jacob F. Stern	31	44	14	-16	18.6	2.75
Port Dodge	Webster	C. N. Jorgensen	31	37	14	-19	14.4	2.11
Averages							21.5	2.59
MISSOURI.								
St. Louis University.	St. Louis	Rev. F. H. Stuntebeck	1	69	14	5	33.9	1.73
Allenton	do	A. Fendler	1	78	14	0	33.4	2.76
Union	Franklin	Miss Belle Moore	1	76	14	3	34.2	1.30
Canton	Lewis	George P. Ray	21	57	5	-12	27.6	1.37
Rolla	Phelps	H. Ruggles	1	74	14	2	30.2	2.40
Harrisonville	Cass	John Christian	1	52	14	-12	28.2	4.90
Oregon	Holt	William Kaucher	20	53	13	-7	25.2	2.95
Averages							30.4	2.49
KANSAS.								
Leavenworth	Leavenworth	J. Stayman, M. D.	22	50	14	-18	25.7	2.75
Olatha	Johnson	W. Beckwith	1	54	14	-8	25.9	3.10
Atchison	Atchison	Dr. H. B. & Miss Horn	31	49	14	-14	24.2	4.60
State Agr. College ..	Riley	Prof. B. F. Mudge	30	52	14	-9	24.8	0.63
LeRoy	Coffey	J. G. Shoemaker	1, 18	57	13	-2	30.7	3.11
Council Grove	Morris	A. Woodworth, M. D.	1, 30	50	14	-17	21.0	0.30
Averages							25.4	2.42
NEBRASKA.								
Glendale	Cass	Dr. and Miss Child	31	45	13	-13	16.9	2.12
WASHINGTON TER.								
Neeah Bay	Clallam	A. Sampson	27	52	11, 13, 22	32	40.7	.....

NOTES OF THE WEATHER, MARCH, 1867.

FROM THE SMITHSONIAN INSTITUTION.

The preceding tables show partially the extent of the extreme cold about the 14th to the 16th of the month; in the following notes a few selections have been made illustrating the suddenness and severity of this cold at some of the southern stations. This depression prevailed over the whole country, as far as registers have been received, but it did not everywhere give the minimum of the month:

St. Anne, Canada East.—March 2.—A sudden gale from the west at noon. Thermometer at 7 a. m., 29° ; at 7 a. m. next day, 7° below zero. 21st.—Ice in the river St. Lawrence breaking up; crows beginning to return. 28th, a great deal of floating ice going slowly down the river. 31st, river pretty clear of ice except along the south bank.

Gardiner, Me.—The mean temperature of March was 3.63° below the average of the month for thirty-one years; the amount of moisture was two inches more than the average.

Rumford, Me.—There was an unusual amount of snow this month, thirty-five inches in all; on the 31st it lay three feet deep on a level.

West Waterville, Me.—March 31.—Sleighb of the season not quite over, though the roads are getting somewhat bare.

Lisbon, Me.—March 31.—In many places out of the village the snow is now a foot deep and sleighing quite good; good crossing on the ice at Southwest Bend.

Cornish, Me.—March 18.—The snow of yesterday was the heaviest of the winter; it is fifteen inches deep on a level. 31st.—The mean temperature of the month was 1.65° below the average for the last thirty-five years.

Concord, N. H.—March 17.—Snow all day; the heaviest snow storm of the season. 31st.—The snow has not yet entirely departed, but is going gradually. The roads have become dry in patches here and there.

Stratford, N. H.—Eighteen and a half inches of snow fell on the 17th and 18th.

Brandon, Vt.—March 10.—Ice on Otter creek breaking up. 13th.—Otter creek clear of ice. 31st.—First appearance of bluebirds.

Randolph, Vt.—March 7.—Snow fell about nine inches deep, but solid and compact; there has been no sleighing until now since the first of February.

Barnet, Vt.—Twenty-seven inches of snow fell during the month.—There was so little snow on the ground in the coldest weather that it froze very deep, some three feet, and will require considerable rain and warm weather to thaw it to the bottom.

New Bedford, Mass.—March 17.—A severe snow set in about $7\frac{1}{2}$ p. m. yesterday, and continued till 10 or 11 p. m. this day; depth about fourteen inches. The wind changed to northwest at 3 p. m. to-day. This was the hardest snow storm of the winter. 24th.—Crocus flowers first noticed. 31st.—The flower buds of the silver poplar begin to open; but few vestiges of snow drifts remain.

Topsfield, Mass.—March 31.—The snow is disappearing rapidly, though a large amount still remains.

Mendon, Mass.—March 31.—Many banks of snow from two to three feet deep; very little frost in the ground.

Lunenburg, Mass.—March 16, 17.—Severe snow storm; twelve inches of snow, a good deal drifted. 31st.—The month closes with very bad travelling, and snow drifts in some places six to eight feet in depth.

N. Billerica, Mass.—March 5.—Two blackbirds noticed. 12th.—Robins appear; blackbirds common.

Kingston, Mass.—March 16, 17.—Eighteen inches of snow fell yesterday and to-day. Total fall of snow in four months, sixty-three inches.

Columbia, Conn.—Commenced snowing at 4 o'clock p. m. on the 16th, and continued with the wind northeast till the 17th at 10 p. m., when the wind veered into the north, and the snow ceased; depth, twelve inches. The next morning the wind was northwest, and so continued for three days.

Colebrook, Conn.—March 31.—Snow-birds singing this morning; snow-banks two to eight feet deep.

Pomfret, Conn.—March was a cold, rough month; two degrees colder than the mean of many years.

Groton, Conn.—March 5.—Steamer arrived from New York; first trip.

New York, N. Y.—Snow storm began at 10.40 a. m. of the 15th, and continued, with some intermissions, till 5.50 p. m. of the 17th; depth, thirteen inches.

Rochester, N. Y.—The mean temperature of the month was 2.82° below the average of March for thirty-one years. The snow storm of the 16th began at 2.30 p. m., and continued till 6 o'clock the next morning; depth, six inches.

Buffalo, N. Y.—Snow storm from 1 p. m. of the 16th to 5 p. m. of the 17th; five and a half inches of snow fell; a high wind from 2 p. m. on the 17th, increasing to a gale at 4 p. m., and blowing the most of the night.

Germantown, N. Y.—Steamboats commenced running from New York to Hudson on the 13th; bluebirds first made their appearance here on the 17th; the frost out of the ground on the 29th, and the snow gone, except here and there the remains of a heavy drift. The ground has not been frozen, as a general thing, over twelve inches, having been covered all the latter part of the winter, and up to the middle of March, with snow.

South Hartford, N. Y.—The month was noted for the absence of the usual March winds. Twelve and a half inches of snow fell during the month, but there was no sleighing.

Garrison's, N. Y.—March was very remarkable for the frequency of its storms and very unusual fall of snow, which exceeded thirteen inches, and though the winter's frost left the ground early in the month, the earth froze almost every month, sometimes to the depth of three inches.

Depauville, N. Y.—March 20.—Last day of sleighing; it lasted since December 11, one hundred days; most of the time fine. 24th.—Ice on the river rather poor, and crossing with teams not safe. 31st.—Ground all bare, except old drifts along fences and on other sheltered places, and the frost almost all out of the ground, but the ponds and streams are still covered with ice. None of the early spring birds have made their appearance yet.

Palermo, N. Y.—March 18.—Eighteen inches of snow fell yesterday and to-day, ending at 3.40 p. m.

Burlington, N. J.—March 31.—There were but seven clear mornings during the month, and but one entirely clear day.

Newark, N. J.—The temperature of the month was 3.68° lower than the average of March for twenty-four years; only in 1852, 1856, and 1863 was the month as cold. The amount of rain and melted snow was nearly an inch in excess of the average for March. The falls of rain and snow were so frequent as to keep the surface of the ground almost constantly wet. There was less fair weather than in any March covered by these reports. Snow was observed on nine days, falling to the depth of seventeen and a half inches. Rain fell in measurable quantities on six days, and there was some sprinkling on six others.

Fallsington, Pa.—March 18.—Best sleighing of the winter. Ten inches of snow fell on the 16th and 17th. Fall of snow during the month at least twenty-five inches.

Pennsville, Pa.—A high flood on the 12th and 13th, but not sufficient to do much damage. Thunder and lightning on the 23d. There was a very large

proportion of dull, cloudy weather during the month. A large amount of snow remained on the ground at the end of the month; more like the close of February than March.

Mooreland, Pa.—March 31.—The month was stormy and unpleasant, and at the close there are very few indications of spring. No ploughing or spring work of any kind has been done yet.

Tioga, Pa.—March 31.—The whole of the month was very bad for getting about, and very unfavorable for any kind of out-door labor. The ground is still frozen, and the hills are covered with snow. No kind of farm spring work has been done yet.

Reading, Pa.—March 27.—Tulips and hyacinths just above ground; 31st, gooseberries about leafing. The greatest depth of frost in the ground was from fifteen to twenty inches.

Ephrata, Pa.—Over twelve inches of snow fell on the 21st and 22d.

Woodlawn, Md.—March was disagreeable—the ground covered with snow or the mud soft nearly all the month, preventing out-door work. The farmers have made no progress with their work; a few made a beginning to plough, but only for a part of one day. Fall of snow during the month fourteen and a quarter inches, and there is considerable in the fields now at the end of the month.

Emmitsburg, Md.—March 22.—Snow from 3 a. m. to 9 p. m.; sixteen inches—the heaviest fall of snow this winter.

Catonsville, Md.—Twenty-two and three-quarter inches of snow fell during the month; ten inches on the 22d, the deepest of the season.

Cape Charles Light-house, Va.—March 2.—Very pale and diffuse lighting and distant thunder at 10 p. m., from the northeast. 12th, a thunder-storm from the westward from 11 a. m. to 2 p. m., with sharp, zigzag lightning. 17th, distant thunder about 4 p. m. in a westerly direction. On the 20th, 21st, and 22d, a most violent gale swept the coast from the northeast, which washed away the island about fifty yards on an average. The tide reached a height that the old people in the vicinity assert has not been observed since the "September gust," years ago. The tide swept through every glade on the island, washed away bridges, and otherwise damaged the island considerably.

Ashland, West Va.—Seven inches of snow fell during March—three inches on the 4th and four inches on the 6th.

Albemarle, N. C.—March 13.—Hyacinths, narcissus, cherries, peach, and plum in full bloom. 16th.—Yesterday in the afternoon it commenced snowing, and continued until the ground on a level was covered to the depth of three inches. Freezing on the top and melting next to the earth, over half of the snow had disappeared by night. Much damage has been done among the cherries, apricots, and peaches that were in full bloom. On the 19th a northeaster set in, and with it a cold, drizzling rain sufficient to keep everything wet without making much show in the rain gauge. It continued till the 21st.

Statesville, N. C.—March 5.—House struck by lightning. 21st.—Trees hanging with ice. Peach trees in bloom; peaches not yet killed; but little ploughing yet done, owing to the wetness of the season. 29th, 30th, 31st.—Ground frozen one inch; peaches not yet altogether killed; very little wind this month.

Aiken, S. C.—March 12.—Lightning and thunder in the evening. 16th.—Orchards in full bloom all incased in ice; not the most delicate flower nor tenderest plant injured by it. 29th.—White frost this morning entirely destroying the peach crop. 31st, thunder at 2 p. m.

Wilkinsville, S. C.—March 12.—Thunder-shower, violent—a few hailstones. 13th.—Heavy rain, much thunder and lightning. 14th.—Moderate rain; small streams much swollen. 15th.—Ground frozen in exposed places a quarter of an inch; ice observed from 6 to 10 a. m.; snow with a little sleet 4 p. m. to mid-

night. 16th.—General average of snow on ground an inch and a half; about four inches fell.

Atlanta, Ga.—March 13.—First pear trees in full bloom. 14th and 16th. On these mornings everything, trees, &c., covered with an ice-crust. 31st.—Portugal quince in full bloom.

Moulton, Ala.—The very severe frosts of the 13th, 14th, and 15th of March were very destructive of the young vegetation, which was then considerably advanced. Peas planted on the 14th February, which were from four to six inches high, were nearly all killed. Cabbage plants, mustard, radishes, beets, and lettuce were killed; onions, hyacinths, and tulips were very much bitten; all the leaves of the rose bushes were killed, and the noisettes and bourbons very much injured. All the apples, peaches, plums, and cherries in bloom had the fruit wholly killed, and the leaves very much injured. Wheat and oats are not thought to be seriously injured. There was not a perfectly fair day during the month, and there was but little high wind.

Havana, Ala.—March 14, 15.—The severe cold of these dates retarded vegetation greatly; nearly all garden vegetables were killed; the young leaves of many forest trees were also killed; the young fruit of peach and plum trees appears to be blighted. Some farmers had corn up in time to be nipped; but it was not entirely killed.

Grenada, Miss.—March 5.—Sleet in morning; 6 to 9 p. m., heavy rain, with frequent and severe lightning, thunder, and wind. 13th.—Sleet and snow; snow one inch deep; it lay in patches until the 18th. Frost on the 18th, and at 6 p. m. heavy rain, wind, and thunder from northwest. 31st.—Peaches and plums have been nearly, or quite, all killed; oats and early wheat injured.

Kingston, Miss.—March 4.—Temperature at 7 a. m. 72° , (the highest at that hour during the month;) at 2 p. m. 58° ; at 9 p. m. 43° ; at 7 a. m. the 5th, 38° , being a fall of thirty-four degrees in twenty-four hours; much damage was done to gardens and fruit trees by this sudden change of temperature. From the 19th, 11 p. m., to the 21st, 9 a. m., two inches of rain fell. At 9 p. m. of the 20th there was a heavy squall, accompanied with vivid lightning and thunder.

Natchez, Miss.—March 20.—A severe thunder-storm last night at 10.30 p. m., with very loud thunder, sharp lightning, and strong wind; duration of storm about thirty minutes. The rain fell in torrents; direction from southwest to northeast.

Fayette, Miss.—All fruit destroyed by the hard frost of the 14th and 15th; vegetation put back a month.

New Orleans, La.—March 17.—Last night light frost on decks of vessels. 31st.—This morning torrents of rain flooding the city, accompanied by a high northeast wind and lightning. The atmosphere is much affected by the icy water of the Mississippi river.

Vidalia, La.—March 10.—Thunder-storm from 5 to 6 a. m. March 14 and 15, an inch and a half of snow fell. For several days the weather had been warm and beautiful; thermometer on the 12th, 72° at 7 a. m., and 84° at 2 p. m. Wild flowers of many varieties were in full bloom, peaches beginning to form, and small figs in abundance on the trees. On the 13th the temperature had fallen to 49° , at 2 p. m. to 42° ; and on the 14th, at 7 a. m., to 27° . The severe and sudden cold destroyed almost all vegetation, and locked the ground in frost. 25th.—Thunder-storm from 7 to 9 p. m. 31st.—The Mississippi river at this point is twenty-four inches higher than in 1865, twelve inches higher than in 1862, and higher than at any time since 1828.

Austin, Texas.—March 7.—Frost. 12th.—Temperature at 2 p. m. 77° ; mean of the day $62\frac{1}{2}^{\circ}$. 13th.—At 10 a. m. 19° ; at 2 p. m. 21° ; mean of the day 22° ; a violent norther; ground covered with snow. 14th.—Temperature at 7 a. m. 21° ; mean of the day 26° . 15th.—Thunder and lightning. 16th, 17th,

white frost. Wild plums and peaches blossomed about the middle of February, but the blossoms were killed by the intense cold of the 13th and 14th of this month.

Lookout Mountain, Tenn.—March 1.—Peach trees in bloom. 4th.—Thunder; violent rain from 7 to 11 p. m. There was a gradual rise of temperature from the 8th to the morning of the 13th, and then a sudden and extreme fall. The mean of the 12th was 64.4° ; 13th, 7 a. m., 70.9° —2 p. m., 36.6° ; 14th, 7 a. m., 15° —mean of the day 21.7° .

Clarksville, Tenn.—Five inches of snow on the 5th, and three-quarters of an inch on the 13th; two or three other snows, enough to whiten the ground. The morning of the 14th was the coldest of the season except two, January 18 and February 10.

Danville, Ky.—Temperature at 7 a. m. on the 12th, 57° ; at the same hour on the 14th, 14° ; mean temperature of the 14th, 18.7° .

Chilesburg, Ky.—Twenty inches of snow fell in March, sixteen of it on the 4th and 5th.

Urbana, Ohio.—The mean temperature of the month was $6\frac{1}{2}$ degrees below the average of March for the previous fifteen years; the quantity of snow was 14.05 inches, which is very near three times the average for the same period; the quantity of water, including rain and melted snow, was scarcely over the average. The cloudiness was 26 per cent. over the mean for fifteen years.

Kelley's Island, Ohio.—The temperature of March was 3.27° below the average of the month for the last eight years; and the amount of snow was 6.16 inches above the average for the same period.

North Fairfield, Ohio.—Blackbirds returned on the 10th, and robins in flocks of any size were first noticed on the 12th, when the woods appeared to be full of them, making their way northward. The month was very cold; streams frozen nearly as hard as at any time during the winter, not breaking up until the afternoon and night of the 30th.

Litchfield, Mich.—March 31.—There is more snow remaining in drifts than has been known at this date since 1843.

Grand Rapids, Mich.—March 25.—Grand river open; steamboat navigation commenced for the season this morning.

Sugar Isle, Thunder Bay, Mich.—March 21.—The lake is to all appearance full of floating ice, but not heavy, moving with every shift of the wind; it has not been safe to travel on at any time during the past winter; none found now over fifteen inches thick. 22d.—Not a particle of ice to be seen on the lake to-day. 31st.—During the last three days the ice has been running down the lake; although the wind was off land, the ice keeps in sight.

New Harmony, Ind.—March 1.—Heavy thunder-storm at 6 p. m.

New Albany, Ind.—March 12.—The flower tufts of the swamp maple (*acer rubrum*) showing their colored stamens, and will soon be in full bloom; crocuses in bloom. The late rains have caused the river to rise again very rapidly; now higher than at any time since 1847. 13th.—Hundreds of people houseless by reason of the flood. 14th.—The Ohio river reached its highest point at 5 p. m., three feet nine inches lower than in 1847. 29th.—Ice this morning, first bright day of the month.

Vevay, Ind.—Five inches of snow on the 4th, nine inches during the month. First flock of blackbirds on the 12th.

Magnolia, Ill.—March 18.—Rock river frozen for teams; Illinois river frozen for footmen. 31st.—Twelve inches of frost on the prairie yet.

Loami, Ill.—March was noted for its storms and uniform cold weather; five snow-storms during the month, amounting in all to seventeen inches in depth; the season is unusually backward; no signs of vegetation at the end of the month.

Dubois, Ill.—There was not one whole clear day during the month.

Tiskilwa, Ill.—The observer does not remember so unpleasant a March during the twenty-three years he has lived here. Has been engaged in the nursery business for the past fourteen years, and has always begun digging trees by the middle of March until last spring, when it was a week or more later, and now (March 31) with good warm sunny days cannot begin for a week yet in most favorable places.

Mount Stirling, Ill.—March 15.—Robins made their first appearance. 31st. Frost not yet out of the ground. Flocks of wild geese have been seen almost daily during the past week flying north.

Golconda, Ill.—March 18.—The Ohio river is fourteen inches over the high-water mark of 1832, the highest ever before known. 31st.—No planting or seeding done in this county yet; the season is unusually late.

Chicago, Ill.—March 15.—The Chicago river is again closed with ice and impassable for vessels. 30th.—Navigation is fairly opened, and several vessels arrived and departed to-day.

Aurora, Ill.—March 20.—Frost in the ground three feet. 31st.—Coldest March since observations began, nineteen years.

St. Louis, Mo.—Four and a half inches of snow fell during the month.

Union, Mo.—March was remarkable for its steady low temperature, continued cloudiness, and extreme cold of the 13th and 14th, which destroyed a large number of the peach-buds. Three and a half inches of snow during the month.

Canton, Mo.—March was colder than any February since 1862.

Oregon, Mo.—March 14.—Thermometer twelve degrees below zero at sunrise. Eleven and a half inches of snow fell during the month.

Plymouth, Wis.—The thermometer was below zero on the 13th, 14th, 15th, and 17th. Mean temperature of the 13th, two degrees below zero; at day-break on the 14th, 1° 5 below. Fall of snow during the month, twenty-two inches.

Milwaukee, Wis.—The 13th was the coldest day observed in March for twenty-five years. The cold northwest wind commenced at 1 a. m.

Waupacca, Wis.—Good sleighing till the 1st of April.

St. Paul, Minn.—The thermometer was below zero on fourteen days in March. Ground frozen to the depth of three feet two inches. At the end of the month the Mississippi river was as firm as in January; ice two and a half feet thick. Fall of snow during the month, fourteen inches, eight of which fell on the 9th and 10th.

Sibley, Minn.—The mean of all the observations for the month at 7 a. m. was below zero. Fifteen and a half inches of snow during the month, twelve of which fell on the 26th and 27th.

Afton, Minn.—March 31.—Good sleighing yet in the country.

Monticello, Iowa.—This March was the coldest during the last thirteen years, the period for which the observer has kept a record.

Iowa City, Iowa.—The mean temperature of March was $8\frac{1}{2}^{\circ}$ below the average of the month for twenty-nine years; March, 1843, was more than ten degrees lower still.

Fort Dodge, Iowa.—March 31.—Twenty-one and a half inches of snow fell during the month, the most of which is still on the ground. The Des Moines river is yet frozen to the depth of two and a half feet, and perfectly safe for travelling.

Harris Grove, Iowa.—March 31.—There have been one hundred and seven consecutive days of sleighing, and the best was during the last days of this month. The Missouri river is still frozen over.

Fort Madison, Iowa.—This March was the coldest since the observer began keeping a record, which was in 1848.

Algona, Iowa.—March 31.—The ground is all covered with deep snow, and

no thaw yet. Thermometer below zero on sixteen days in the month. Mean temperature of the month at 7 a. m., 3.26°.

Council Grove, Kansas.—Fall of snow in March, three inches. On the 14th ground frozen six inches in depth.

Atchison, Kansas.—The first steamboat of the season arrived from St. Louis. 14th.—The Missouri river closed both above and below this city last night. This morning was the coldest of the winter. Fall of snow during the month, 9.55 inches.

Leavenworth, Kansas.—On the 15th the thermometer rose from zero at 7 a. m., to 46° at 11½ a. m., a rise of forty-six degrees in four and a half hours. The cold on the night of the 13th killed all the fruit-buds of the peaches and apricots, and also injured some of the grape-vines.

Manhattan, Kansas.—This is said to have been the coldest March known to the oldest settlers. Snow fell on ten different days, but in quantities too small to measure, except on the 12th and 13th, when it amounted to three inches.

Glendale, Nebraska.—The 13th of March was the coldest day of the winter. 31st.—The first flock of wild geese noticed flying north. Nine and a half inches of snow fell during the month.

Colorado City, Colorado.—During the first week in March the thermometer indicated from twenty to thirty degrees below zero. Snow has fallen on almost every day, but has not accumulated. There are now (March 28) about four inches on the ground from a fall of last night, and the snow is still falling.

REMARKS.

One of the years in which the coldest March occurred over nearly the whole country was in 1843, as appears from an examination of the meteorological tables published by the Surgeon General's Office. A few selections from the stations where observations have been made for the longest series of years are here given, showing the mean temperature of March for that year and the period of time over which the record extends. At all these stations the coldest March was in 1843:

Fort Columbus, New York.....	1822 to 1859, mean temperature	30.31
Fort McHenry, Maryland.....	1831 to 1859 do.	30.14
Fort Monroe, Virginia.....	1825 to 1859 do.	37.09
Fort Moultrie, South Carolina.....	1823 to 1859 do.	48.82
Fort Jessup, Louisiana.....	1823 to 1845 do.	41.60
Fort Gibson, Indian territory.....	1828 to 1854 do.	39.50
Jefferson Barracks, Missouri.....	1827 to 1854 do.	25.50
Fort Brady, Michigan.....	1823 to 1854 do.	3.69
Fort Snelling, Minnesota.....	1820 to 1858 do.	4.67
Fort Leavenworth, Kansas.....	1830 to 1859 do.	17.45

At Washington, Arkansas, according to the observations of Dr. Smith, published by the Smithsonian Institution, March, 1843, was the coldest month in the whole period of twenty years, (1840 to 1859,) except January, 1856.

MONTHLY REPORT

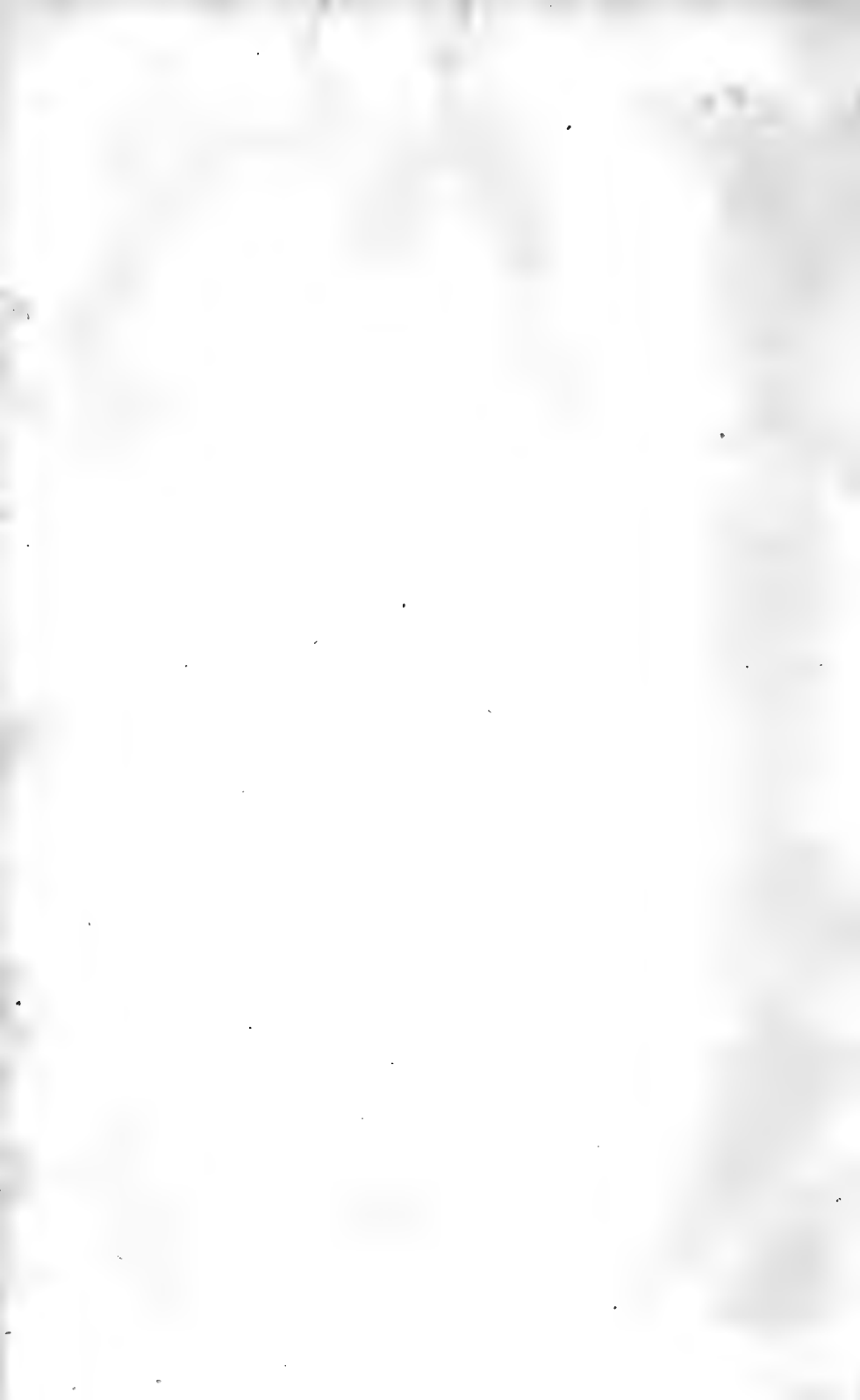
OF

THE AGRICULTURAL DEPARTMENT.

MAY AND JUNE,

1867.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1867.



MONTHLY REPORT.

DEATH OF HON. ISAAC NEWTON.

After this report was sent to press, we received the news that our worthy Commissioner had passed away to that world where "the wicked cease from troubling and the weary be at rest." We have room only for a brief notice of his long and useful life, and his peaceful death.

Isaac Newton was born in Burlington county, New Jersey, March 31, 1800. His early years were passed on a farm; his education and his youthful labors were those of a farmer's boy. He was a member of the Society of Friends, a respectable and highly valued member, cherishing the faith and living the profession of his people.

Shortly after his marriage he settled on a farm in Delaware county, Pennsylvania, not far from Philadelphia. His management soon made his farm celebrated for its neatness, order, and productiveness; and he early took place in the front rank of the model farmers of the Keystone State. At an early period he became a member of the State Agricultural Society, and in it offered a resolution, which was adopted, urging Congress to establish a national Department of Agriculture. He also was among the first to press this measure on the attention of Presidents Harrison, Taylor, and Fillmore, with whom he enjoyed intimate personal acquaintance. Finally, on the election of Mr. Lincoln, he again urged this measure, and Congress responded to the President's recommendation by passing the long desired act, which was approved May 15, 1862.

In anticipation of such a department, Mr. Lincoln, in the spring of 1861, appointed Mr. Newton to superintend the agricultural division of the Bureau of Patents; which he did so satisfactorily, that when the act was passed, Mr. Lincoln appointed and the Senate confirmed him as the suitable person to organize and preside over the new department, as its Commissioner.

Thus this department was inaugurated July 1, 1862, as a separate and independent department of our government; and it is a noteworthy fact that our martyr President, to the close of his life, gave the Commissioner his confidence and warm approval, and frequently consulted him as an intimate personal friend.

In July, 1866, Mr. Newton overheated himself while working on the experimental farm. He became dangerously ill; and, in consequence of pressing cares and duties, did not allow himself leisure for full recovery. Frequent relapses followed, attended by complicating affections of various organs, until the over-wrought organism finally failed altogether. He quietly, peacefully, and in full consciousness, passed from this life at the house of his son, Isaac Newton, jr., in this city, at about 6 p. m., June 19, 1867.

This is not the time, nor have we space, to add more respecting the departed, or his official life and labors. The latter were numerous, exacting and often very difficult; but we believe that results will prove that they were generally judiciously devised, well performed, and will be found highly beneficial to the country at large. The accompanying resolutions will show in what light the deceased and his official deeds were regarded by those associated with him in the department. His fellow-citizens of Pennsylvania, temporarily residing here, have also voluntarily expressed their sentiments in regard to him as a man and as a public officer. We feel, therefore, that with such "a cloud of witnesses," we may properly close without further comment on his well-spent life and honorable character.

J. W. STOKES,

Acting Commissioner.

MEETING OF DEPARTMENT EMPLOYÉES.

At a meeting of the clerks and employés of the Department of Agriculture, held Thursday morning, June 20, to take action upon the decease of Hon. Isaac Newton, late Commissioner of Agriculture, Hon. John W. Stokes, Acting Commissioner, was called to the chair, and Charles H. Folwell appointed secretary.

Upon taking the chair Mr. Stokes said:

GENTLEMEN: It becomes my painful duty to announce to you the death of Mr. Newton, the head of this Department. He expired yesterday at his residence in this city, surrounded by his family and friends.

We meet together, gentlemen, to-day, to express, in a suitable and becoming manner, our feelings upon this sad bereavement. Many of you have been associated with him in the discharge of the duties of the Department from its organization, and have been the recipients of his kind and generous confidence. You are the living witnesses of his earnest and devoted attachment to the great agricultural interests of the country, and of the industry with which he ever pursued the labors of his office. Personally, I feel this bereavement keenly; he was my personal friend, and for many years I have enjoyed his confidence as his personal friend and legal adviser, and twice have I been honored by him in the position which I hold among you to-day, which makes me the successor and temporary occupant of that vacant chair until it shall be again filled by regular appointment.

On motion of Colonel E. M. Whitaker, a committee of three, consisting of Rev. A. B. Grosh, J. R. Dodge, and Wm. Saunders, was appointed to draught resolutions expressive of the feelings of the meeting.

During the absence of the committee, Colonel E. M. Whitaker, Walter E. Gardiner, and Colonel James Gleason were appointed a committee to make necessary arrangements for the funeral, and a committee of twenty was appointed to accompany the remains to Philadelphia.

Mr. Grosh, from the committee on resolutions, said they felt so deeply this sad affliction that it required much effort to suppress what they would say, lest more would be said than seemed proper. We have been associated with Mr. Newton for years—some of us before this Department was organized—and have shared his arduous labors, and sympathized with him in his many trials—received his kindnesses and met his approving smiles; and when we look at his now vacant chair, and recall his benevolent countenance, and realize that the seat shall no more be filled by his noble form, crowned by those silvery locks of an honored old age, we feel that the words are tame in which we have en-

deavored to express our and your feeling of the common loss. But we have endeavored to make them fit, though few, and appropriate, though not overflowing, nor even full of our emotions on this sad occurrence. And as such we respectfully submit the following :

Whereas we have heard with profound sorrow of the death of the Hon. Isaac Newton, the first Commissioner of this Department, and deem it proper that we, who shared his confidence and his labors, and reciprocated his kindly feelings, should express our sentiments on the sad occasion : Therefore,

Resolved, That in the decease of Hon. Isaac Newton the nation has been deprived of a humane, honest, and efficient officer ; this Department of one who, at an early day, urged its establishment as due to the agricultural interests of the country, and who, in all the preparatory labors for originating and organizing the Department and in directing its operations, had the full, unwavering confidence and approbation, as well as warm personal friendship, of our martyr President.

Resolved, That the agricultural associations of which he was a member, and the agriculturists of our country generally, have been deprived of an eminently able and practical member, who, through a long life devoted to their interests, proved himself an honor to that most honorable profession.

Resolved, That we who knew him so well, and esteemed and loved him so much, mingle our griefs and sympathies with his bereaved family and numerous friends who knew him best and therefore loved him most, and feelingly commend them to the comforts and consolations of that religious faith which was his guide, support, and consolation in the many duties, trials, and afflictions of his long, active, and useful life—confident that He who has taken away our friend chastens only “for our profit that we might be partakers of His holiness.”

Resolved, That to show our regard for the deceased, and our respect for his memory, we will attend his funeral in a body, and wear the usual badge of mourning for thirty days.

The preamble and resolutions were adopted, and a committee of five appointed to present a copy of the same to the family of the deceased.

The proceedings of the meeting were ordered to be published, and the meeting then adjourned to meet at one p. m., June 21, to attend in a body the remains from the late residence of the Commissioner to the Baltimore depot.

JOHN W. STOKES, *Chairman*.

CHARLES H. FOLWELL, *Secretary*.

MEETING OF PENNSYLVANIANS.

A meeting of Pennsylvanians was held on the evening of June 20, at the State Agency, and the following resolutions were adopted :

Whereas it has pleased an all-wise Providence to remove from the scene of his honorable and useful labors a prominent citizen of Pennsylvania, the Hon. Isaac Newton, Commissioner of Agriculture—a man honorable for years, of unswerving loyalty, of scrupulous integrity, of genial disposition, of pure and simple habits, a devotee of the noble pursuit of agriculture, a cherished friend of the late President Lincoln, and a recipient of merited honors at his hands : Therefore,

Resolved, That in the death of the Hon. Isaac Newton, we mourn the loss of an upright citizen and a faithful officer, who both in private and public life reflected honor upon the gallant State of his birth, and the noble State of which he was a citizen.

Resolved, That by this afflicting dispensation the honorable calling of agriculture has lost one of its brightest ornaments—one whose life was consecrated to the development of its vast resources, and to the promotion of its important interests.

Resolved, That our heartfelt sympathies are hereby tendered to the sorrowing family of the lamented deceased, with the expression of the fervent hope that He who in His inscrutable dispensations has permitted this great bereavement, will assuage the anguish of their stricken hearts.

Resolved, That as an additional testimonial of our admiration of the virtues and respect for the memory of our departed friend, we will attend his funeral in a body.

Resolved, That the newspapers of the District of Columbia and of the States of Pennsylvania and New Jersey be requested to publish the proceedings of this meeting, and that a copy of the foregoing preamble and resolutions be transmitted by its officers to the bereaved family of the venerable deceased.

The following gentlemen representing the various departments of the government were appointed to act as pall-bearers to the railroad depot: Colonel John H. Stewart, State Agent; General James A. Ekin, War Department; Dr. Thomas L. Cathcart, Treasury Department; Joseph M. Wilson, Interior Department; A. D. Hazen, Post Office Department; John D. Hyer, Navy Department; A. B. Grosh and Colonel James Gleason, Department of Agriculture.

REPORT OF AN AGRICULTURAL SURVEY OF THE SOUTH.

WASHINGTON, June 1, 1867.

SIR: The undersigned, commissioned by you as an agent of the department to travel in the southern States and make arrangements for the distribution of seeds to the destitute in the south, in order to carry out the intentions of Congress in an act entitled "A resolution for the relief of the destitute in the south and southwestern States," approved March 30, 1867, begs leave to submit the following report:

I left this city on the 12th of April; proceeded to Richmond, in Virginia; thence to Petersburg, and via Weldon and Wilmington, North Carolina, to Charleston, South Carolina; thence I proceeded to Augusta and to Savannah, Georgia; thence to Macon and Atlanta; thence to Chattanooga, Tennessee, to Tusculumbia, Alabama, and to Memphis, Tennessee; at that point, by the Mississippi river to Vicksburg, Mississippi; thence to Jackson, and thence to New Orleans, in Louisiana; thence to Mobile and Montgomery, in Alabama; thence, via Columbus, to Macon and Atlanta; and thence to Dalton, Georgia, and from there, via Knoxville, Tennessee, and Lynchburg, Virginia, back to this city, where I arrived on the 31st ultimo.

I had previously visited, during February and March, part of the section traversed, by different routes, having visited Raleigh, North Carolina, and Charlotte and Columbia, South Carolina, thus traversing in the past four months a large portion of the southern States east of the Mississippi river.

Through the kindness of General Grant I was put in friendly communication with the several district commanders of the southern States, who furnished valuable aid in organizing agencies in the several registering and voting districts throughout their several departments. In Virginia only has the plan been completed. Thanks are due to General Schofield for having so early carried out the views of the department in his district.

You requested me at parting too keep "my eyes and ears open," and to be able to report what I might see and learn in regard to the general condition of the agriculture of the South which might be useful and interesting. I have, in part, endeavored to give you a brief sketch of what I have learned in my short visit to the South, and which I am sensible is only a summary; still, I trust there may be much that will interest the public in reading, as there was certainly much that was exceedingly interesting to me in seeing.

To the mass of the northern people—by which I mean of the free States before the rebellion—but little is known of the agricultural resources of the South. In Europe the people fail to comprehend in the slightest degree the vast field which is there opened up for the future home of the emigrant. While slavery existed the South was as a sealed book to the industry and enterprise of the North. Free labor could not penetrate, and hence the great current of northern and European emigration would not seek an entrance into a country where it was not wanted or tolerated.

But slavery having been abolished, there is a vacuum created for labor so large that a million of laboring people would now find profitable employment; and when the southern people have once mustered a supply of provisions for their own use and to feed the emigrant, means should be taken by the general government or by the States to inaugurate a broad system of emigration.

The effective labor of the South has been reduced to such an extent that careful and experienced men estimate it at one-fourth what it was before the war. My own observation satisfies me that it is less than one-third. There are, therefore, large quantities of land already opened up or cleared and fenced which cannot be cultivated, and is fast growing up with brush and briars for the want of labor.

Few understand the variety of climate, soil, and production of the South. Its production includes those of the temperate and torrid zones. All the cereals can be grown there as well as at the North, while oranges, bananas, figs, in addition to most of the fruits of the North, abound. In addition to the cereals, cotton is grown everywhere. I have seen on the same farm cotton, corn, wheat, oats, rye, and red clover, all looking well; the clover was nearly past bloom, and the wheat almost ready for the harvest.

When these facts are understood, and that it is a mistake to suppose a northern man or a European cannot enjoy health at the South, as a general rule, immigration must flow that way; and as the country becomes better understood and appreciated it will teem with a thrifty and industrious population. There are portions of the South where a northern man ought not to settle at present. Around the swamps and rivers and near the coast there are seasons when it would be necessary to adopt great precautions, but it is only a small belt of country—say some fifty or sixty miles wide from the James river, in Virginia, to the Mississippi. To this again are many exceptions, as along the coast as healthy points are found as any in the Union. But however interesting these subjects may be, it is not the place to discuss them in this report.

I found everywhere a want of means and a scarcity of labor to adequately cultivate the land which was already open for tillage. Comparatively few had been able to borrow the means to purchase mules and to feed and pay a few laborers. The difficulty of procuring the means of living for man or beast over the whole South can scarcely be conceived by other than an eye-witness. The war had absorbed or destroyed nearly all the domestic animals, as well as every species of breadstuffs. A bad season had followed the war. There had been no money left, and nothing to get it with. The people, therefore, commenced the year with empty granaries and larders; still, they were trying every means to prepare for making a crop. Few through the Carolinas and a part of Georgia, Alabama, and Mississippi could get teams for any amount of work. Some could get a cow or a steer, which was harnessed to the plough; and it was not uncommon among the poorer families to find the cow doing double duty—furnishing milk to keep the family from starving, and ploughing the land for a crop. Many planters who had teams and the means to put in a good breadth of land to corn or cotton, but not enough to work it beyond a certain point, went forward manfully, trusting to some future supply, though they knew not from what source it would come. Many of these people have been compelled to discharge their laborers, turn their mules into the woods, and abandon promising

crops of corn and cotton, simply for the want of food. Thousands of acres have been thus abandoned, and thousands will yet be, for the famine is yet rife in the land, and this very loss of crop has entailed another year of suffering upon all classes of the rural population of the South.

In point of fact the people were in a worse condition this spring than they were when the war closed. There was money then in the hands of a portion of the people; our army had left some; others had cotton to sell, so that there was some money in circulation. This spring, however, most of that money had left the country, and a failure of the crops the past year had left them badly in debt, and in a most helpless condition. They have, therefore, already anticipated much of their coming crop, and it is doubtful whether at the end of the year, as a whole, they will be better situated financially than they were two years ago.

The defective system of their agriculture has been strongly exemplified this year. Millions of dollars have been sent to Tennessee, Kentucky, and the western States, for corn, bacon, hay, and oats, all of which articles, except bacon, could have been produced equally well on the farm. It is a grave mistake to think that hay cannot be made at the south, or that forage crops are unprofitable. Nearly all the grasses which flourish at the north will do equally well there, if properly cultivated. The quack grass, which is so much dreaded north, has proved itself very useful here, making a permanent sod, and being productive as a pasture grass. The Bermuda grass is invaluable for pasture; and though, from their very superficial method of cultivation, it becomes a pest in cotton fields, if it were more extensively sown in abandoned and worn-out lands, thousands of domestic animals could find support where only barren and desolate fields are now to be seen. Had the North pursued the same wasteful methods of cultivation which have prevailed at the south, there would be many unsightly worn-out fields where there are now smiling homesteads. The vegetable matter of the South, if properly conserved, would be truly enormous.

At Macon, Georgia, on the 2d of May, I saw lucerne that had been cut the second time, (nearly two feet long,) and red clover, orchard grass, blue grass, in blossom, that would have made at least a ton and a half of hay to the acre. On the Mississippi bottom, and indeed upon all intervale lands, white clover grows in luxuriant profusion.

There is therefore little land where an abundance of forage for stock may not be made cheaply; nor is there any where an ample supply of green food could not be grown for soiling the working animals during the spring and summer. I have seen no country where I thought soiling would pay so well, and it should be universally adopted as in the cotton and sugar zone of the South; for there, especially upon their lighter and thinner uplands, "the pine lands," as they are called, vegetable manure is of the utmost value towards securing a good crop, either of corn or cotton. The great cause of the exhaustion of those lands has been the loss of the vegetable matter of the soil. Nothing but an alluvion, often replenished by the overflow of the river, could withstand the terrible process of cultivation which has so long obtained at the south. Land and labor being plenty, and cheap, the plan has been to open new fields constantly, and as fast as the old ones ceased to make remunerative returns, to abandon them and resort to the new ones. It cost more to conserve manures than to clear lands. Hence one sees few conveniences for keeping domestic animals.

That a rigid system of high farming will become profitable I have no doubt. In many instances I found farmers who had saved the manure of their animals after a fashion, yarding their stock in rail pens without cover, then scraping up the litter, much soaked and washed by the winter and spring rains, and carrying it out upon their corn and cotton fields. Some few farmers have good barns and sheds, and their manure is well handled, and applied in good condition, and at the proper time. From these men I learned that by a proper rotation of crops,

and a free use of manures and fertilizers, in favorable years a bale of cotton per acre could be made even on what are called the poor pine lands of the Carolinas and Georgia. For the want, however, of skilful cultivators, millions of acres will remain waste, worse even than the native forest. They have no longer the labor which has been so long and so foolishly turned to wasteful and improvident farming.

Before entering into detail as to the several States it may be well to say that the testimony of the planters over all parts of the south has been that by reason of the severity of the winter the earth was in finer condition for spring labor; that the crops were seeded in finer beds, and had been better worked, and had a better stand than had been known for years. Up to this time there has been little destruction from insects, and great confidence is felt that they will realize abundant crops for the breadth of land cultivated, which, probably, will not exceed in the aggregate one-half the amount before the war.

Having given a brief summary of the South as it appeared in early spring, and observations upon facts then brought to my mind, I shall now give in detail, by States and crops, the appearance up to this 1st of June—an important period of seed time and early cultivation having passed.

VIRGINIA.

But a small part of the cotton belt is found in Virginia. A few counties in the southeastern corner, south of the James river, and along the North Carolina line, embrace all the available cotton lands in the State. Only 12,727 bales are reported for 1860. These lands have been worked to a much larger extent than last year. The seed has been bedded in better order; more manure and fertilizers have been used; the plant has generally been well worked out, and presents a most promising stand. As compared with last year, the breadth seeded is nearly double, but as compared with the year before the war it is not one-half.

The want of means both for paying hands and supporting the working force of the plantation in food and forage has been the great drawback.

Tobacco is the great commercial staple of this State, 123,968,312 pounds being reported by the United States census of 1860. The breadth of land planted has been largely increased this year. Labor has become more reliable, the price of the product makes it profitable to cultivate, and it has long been a favorite staple. Its successful cultivation is practically better understood than in any other State except, perhaps, Kentucky; and there the Virginia method is more or less followed.

While the quantity of land planted is still very much below that of the year before the war, yet, compared with last year it must be more than double. The season thus far has been favorable, and the plant has a good stand.

Wheat.—Owing to the scarcity of seed only a moderate breadth was seeded last fall. But it is now looking uncommonly fine. It has escaped nearly all accidents of insects and weather, and promises one of the largest acreable yields for years. The crop will be unusually good both in quantity and quality.

Corn.—The continued high price of this grain, of which there was quite a surplus in the State, has stimulated the planting of a larger breadth than last spring. Much of the districted lands have been fenced and planted, and this State is rapidly getting back to her condition before the war. The plant is being well worked out, and presents a thrifty stand.

Oats.—The breadth of land seeded is much in advance of last year, and the crop looks well.

The other crops grown are more or less exceptional, but generally look and promise well.

Grass and clover will be largely in excess of the wants of all their stock,

and unless stock is driven in during the summer, much pasturage and hay will be lost.

Stock of all kinds is rapidly increasing, but is still far below the capacity of the land to carry profitably.

Up to this time Virginia, in her agriculture, may be considered as in a comparatively prosperous condition.

NORTH CAROLINA.

This State may be considered as entirely within the cotton zone, though tobacco and the cereals are both profitably cultivated, and to quite an extent. Cotton, tobacco, and rice are the commercial staples, though there is more or less surplus of the grains.

The cow pea enters largely into her system of profitable cultivation, and is exported to other States in considerable quantities. The cow pea is to the lands of the south as a renovator what the clover plant is to the north, and when cultivation is based upon that in a routine of crops, some highly remunerative results have followed. In 1860 the cotton crop was 145,514 bales, and her tobacco crop 32,853,250 pounds, and 7,593,976 pounds of rice. As these represent her commercial crops, the others can be considered only accessory.

Cotton.—The breadth of land planted is much broader than last year, but does not yet make one-half of the quantity planted before the war. In many of the upper districts much that was planted and partially worked has been abandoned for want of food for the laborers and for the teams. The plant has a good stand, and, with the above exception, has been well worked and promises well.

Wheat.—There is considerable good wheat land in this State, especially in the upper portions, as was shown by the last census, 4,743,706 bushels being reported. The crop this year will largely exceed that of last, but is fully three-fourths less than formerly. At this time it is looking well and promises a larger acreable yield than for many years past.

Corn.—This grain has not been planted to the extent that the exigencies of the country demand. It is a profitable crop to grow in this State, as there is a broad surface of good corn lands. The census reports 30,078,564 bushels, which makes it the seventh corn State in the Union. Its cultivation in the present state of labor will largely supersede cotton; it is looking well and has generally a fine stand. I saw a variety of white flint peculiar to this State, which the department will do well to distribute to localities in a kindred climate; it is a favorite further south, and outsells all other kinds put upon the market.

Oats.—This crop is sown upon nearly every farm, the design being to make enough for the teams. It failed largely last year, but the plant looks well now, and a much larger breadth has been sown than last year, yet not one-half the amount before the war, when the last report made the crop 2,781,860 bushels.

Rice.—Before the war the cultivation of this grain along the bays and rivers at tide-water was gradually increasing, and the quantity raised, as shown by previous figures, was quite an item in the commercial reports. The cultivation is now nearly abandoned. It requires capital and labor to carry on this the most profitable cultivation of any cereal in the whole list. But a small portion of the rice plantations are being worked at present, but upon those cultivated the plant has a fine stand and is looking well.

Tobacco.—As is shown by the figures, this is an important crop, and the largest made in any of the regular cotton States. The high price has stimulated its cultivation, and as labor could be secured more readily for its cultivation than of cotton or rice, a much larger breadth is planted than last year, and perhaps in corn and tobacco there is a nearer approach to the breadth planted in former years than in any other crop.

It would be well to note that the cultivation of the cow pea enters more largely into the system of farming in this than any other southern State.

In this I think the southern farmers have a most valuable plant, for by its judicious use in a proper system of rotation, the land can be rapidly renovated and at small expense. In this regard the North Carolina farms are far in advance. A favorite method with some very successful farmers is to sow last year's corn stubble in peas; when ripe put on hogs to harvest them, and then plough under vines and sow wheat. By this means the land is improved, and increased crops are the result.

SOUTH CAROLINA.

Being well situated for the cultivation of rice and cotton, and having a surplus of labor, this State has devoted its agriculture to the cultivation of these two merchantable products, to the neglect of all her other agricultural resources. In proportion to area she has but little more poor soil than North Carolina, while in her rice lands and sea islands she has much that is superior.

Cotton.—The census shows that there was grown, as reported, 353,412 bales; how much of this was sea island and how much upland does not appear, while the quantity planted is in excess of last year. It is safe to estimate that not over one-half of the land planted in 1859 and 1860 is now being worked, while through the region known as "Sherman's track," the same causes which compelled the abandonment of fields after they had been planted and partially worked in North Carolina has produced like results, only to a larger extent here. Some have been compelled to abandon entirely and at once, while others have discharged their hands and teams, and worked with their families in order to make some corn and a little cotton to save them from future starvation.

While much relief has come to many of these people, but a small portion have been relieved, from the impossibility of getting conveyance to find the suffering or to send relief when found. If the history of the past and present suffering of these people in the Carolinas, Georgia, portions of Alabama, and Mississippi is ever fully written, an amount of human suffering will be disclosed that has had no parallel in the Union. Even if the season be most propitious, there will yet be, until another planting and another harvest, untold misery and starvation.

It will hardly be credited that whole families have had no meat for weeks; that they have had but one meal a day, and that of pounded corn. Often they have denied themselves corn, that the sick could be fed, and have substituted roots and herbs gathered from the fields and woods. In one instance a husband had travelled some sixty miles to a relative, who had loaned him a cow then in milk, and there was joy in that family when the cow came. They had tasted no food for weeks but roots and herbs, and were weak and emaciated, but the milk restored their vigor. The man also brought a small parcel of seed-corn, and the cow was harnessed to the plough and a small patch of land was prepared for a future crop. This family consisted of father, mother, and five children. To the question, "Why don't you work?" "O, sir, tell us where we can get even a peck of corn or a pound of pork, and we will most gladly work, but everybody is like we are." And this is the condition of thousands.

Corn.—More has been planted this year than last. In many instances but little cotton is planted, and the energies of the farm devoted to corn. Yet they are all so badly in debt that an effort is made to grow all the cotton possible. In the census the corn crop is put down at 15,065,606 bushels. It will fall far below that this year. I doubt if it reaches half. To furnish any permanent relief it should be double. The plant is well cultivated and looks promising.

Wheat.—Only 1,285,631 bushels are reported by the census for this State. For the lack of seed and labor but a small breadth was sown last year; it is

being harvested in good condition and yields well, but so pressing are the wants of the people that but a little will be left for seed. In many instances the green wheat and rye have been cut up and fed to the mules to enable the farmers to work their growing cotton and corn crops.

Oats.—But a small crop, only 936,974 bushels, were made, as reported by the census; it is therefore of small consequence, though an effort has been made this year to sow considerable, but the scarcity of the seed and the poverty of the people have prevented anything like the usual breadth being put in.

Rice.—The census reported 119,100,528 pounds of hulled or merchantable rice. The great destruction of the expensive fixtures on the rice plantations by the war has nearly broken up the cultivation; added to this is the want of capital and of labor, and the cultivation of a plantation is the exception rather than the rule, nor will the vast rice fields be again cultivated till a new system of labor is established; resort must be had to the Chinese. If proper efforts are made, I have no doubt abundant labor of that kind could be procured at San Francisco. And the Chinaman once domiciled on these plantations, there will be no further want for labor, and cheap labor, too, for there is scarcely any place on this continent where a Chinaman can live so cheap as on the rice plantations of the South.

Tobacco.—This crop has been considered of small consequence in this State, the census only reporting 104,912 pounds. Whether there be really difficulties of soil or climate, or both, in the way of successful and profitable cultivation, I did not learn. As a part of the State is on the same range of the Blue Ridge with Virginia and North Carolina, there seems no good reason why it cannot be grown as well as in those States.

GEORGIA.

In many respects Georgia must be considered the empire State of the South. Her agriculture has been more diversified, and before the war was rapidly improving. She has a wide range of soil and climate, and is destined to become an important manufacturing region, as her resources in motive power, and in raw material and central location are not surpassed by any other State, either north or south. As soon as she gets through with her political difficulties she will rapidly improve.

Wheat.—There was a lack of seed last autumn, and, therefore, not as large a breadth was seeded as would otherwise have been sown; still, a fair crop will be secured, and as the harvest is nearly completed, it has been secured in good condition. Both in quantity and quality it has been satisfactory, and will afford immense relief to the famishing thousands within her borders. It has not been a profitable crop, nor has it been a favorite heretofore. The census shows 2,544,913 bushels. It is considered a hazardous crop, and only becomes profitable in exceptional years, as the present. Still, its cultivation will rapidly supersede cotton in all of middle and upper Georgia.

Corn.—By the census report there was grown in 1859, 30, 776,293 bushels. In its general surface the soil of Georgia is congenial to this plant, and it will rapidly approximate some of the larger corn-yielding States. The exigencies of agriculture will stimulate the rapid enlargement of the area of this plant under cultivation. When it becomes important to make the animal product of the farm approximate more nearly to that of the vegetable, corn and oats will rapidly increase in quantities cultivated. There is a large breadth now planted as compared with last year. Perhaps as compared with the year before the war it may be put down as nearly or quite one-half. The plant is looking well, has a good stand, and, though much of it is late, promises a good yield.

Oats.—The cultivation of this grain is increasing; by the census it appears only 1,231,819 bushels were given. There has been a good breadth seeded this

year, though much less than would have been sown but for the difficulty in procuring seed in time for early spring sowing. It is considered a precarious crop unless sown early in the season. Generally the plant looks well, as the season thus far has been most propitious.

Rice.—Although the quantity of rice reported by the census was only 52,507,652 pounds, and less than one-half of South Carolina, it was not for the want of good rice lands. The cultivation of this grain had not been as much engaged in, and capital had been turned to other branches of farming. The cotton lands of Georgia were more productive, or rather sections of them were, than those of the Carolinas; and while it was found quite as profitable to buy and cultivate these lands, there is not a tenth part of the rice plantations under cultivation this year, though the price of the grain would make it very profitable. The want of labor and capital will seriously derange the future cultivation of all the rice lands of the South, and that branch of farming will be abandoned. The little now planted looks well and promises an abundant yield.

Cotton.—Up to the war Georgia was constantly increasing in the cultivation of cotton. New railroads were being continually built through the State, which, by giving increased facilities for marketing the staple, gave additional inducements for employing their constantly increasing surplus labor in this branch of industry, as it was not of a kind that could be safely or profitably employed in manufacturing. The census reports 701,840 bales, making her the fourth of the cotton States. The scarcity and high price of corn, oats, and hay, the want of means to purchase, and the price of labor, have compelled the planting of a less surface than last year; but the best land only has been selected, and the yield in the aggregate promises to be larger than last year to a moderate extent. The plant has a good stand, and as a general rule has been well worked out. The cool wet weather has retarded it, and in many localities has injured it, but still, if the remainder of the season be good there will be a good crop if there be help enough to secure it.

Tobacco.—This could not have been a favorite crop, as the census reports only 919,318 pounds. There is nothing in the climate or soil to prevent profitable cultivation. If the price continue as at present the cultivation of tobacco will increase, as it is the only commercial crop which can be made with comparatively little labor.

FLORIDA.

This State is small in area, and its agriculture can have but little influence upon aggregate productions.

Its peculiar location and delightful climate will make it sought for as the "truck patch" of the northern cities, for which it is most admirably adapted, and the fruit garden of the whole country. The cultivation of oranges, lemons, bananas, and other tropical or semi-tropical fruits, is largely on the increase, and as soon as quiet is restored to the land it will be rapidly peopled by those who will make its lands most valuable for these purposes. For cattle and sheep raising the interior holds out great inducements, and large herds are already to be found there. All its crops are especially promising, and the sea-island cotton, which is principally grown here, looks uncommonly well. A fair crop of wheat has been gathered. The high price obtained for their products has enabled the planters to pay such prices as have secured a good supply of reliable labor, and there will be a much nearer approximation to her former surplus of production than in any other State.

ALABAMA.

This was the second cotton State of the Union, reporting, according to the census of 1860, 989,955 bales of 400 pounds.

The lands of this State, especially for cotton, are only exceeded by those of

the Mississippi bottoms. Its agriculture was progressive, and the planters were active, energetic men, though they had adopted a system that must have resulted in the complete exhaustion of their soil. The soil and climate will induce a more healthful system of farming, and there is no reason why, under a judicious system of cultivation, it should not rank among the first States of the Union in wealth and population.

Wheat.—There has not been much attention paid to this crop, though there are large quantities of excellent wheat lands. The breadth sown last fall was not large, both for the want of seed and of labor. The census reports only 1,208,444 bushels in 1860. As the average yield has been good, and the quality excellent, the crop will not fall far below these figures this year.

Corn.—Like Georgia this can be made an important corn State. The year the State grew so large a crop of cotton, it also produced 33,228,282 bushels of corn, placing her first among the cotton States in corn-growing. The farmers have planted largely this year. There is now seeded in corn nearly double the breadth of last year at this time, and it is generally looking well and promises a good crop.

Oats.—This was considered an insignificant crop; only 682,179 bushels were reported by the census. The probability is that the crop will largely exceed these figures this year.

Rice and tobacco.—These crops were not important in this State before the war. Only 989,955 pounds of rice and 232,914 pounds of tobacco were reported in the census, and but a very narrow breadth of land this year is in either crop.

MISSISSIPPI.

If the river could be restrained within its banks, so that the danger of the annual floods could be avoided, this would be the most valuable agricultural State in the Union. In 1859, as reported in the census of 1860, on 5,065,755 acres of improved land she grew over a half million bushels of wheat, 29,059,682 bushels of corn, some oats, rice and tobacco, and 1,202,597 bales of cotton. The destruction of the levee along the banks of the river by both armies during the war, and since by the floods of the river, has rendered the lands so insecure in regard to the floods, that a large portion of the finest lands in the Union, not surpassed even by the Nile lands of Egypt, is being abandoned, and will soon be given up to a cottonwood jungle. As this subject of the condition of the bottom lands will be alluded to in another part of the report, I pass over it for the present. When I saw these lands there was a strip of the best of them ten to forty miles wide submerged by an unusually high flood, and if it subsided in the usual time, even then it would not be possible to make a full crop either of cotton or grain.

The suffering by reason of the inundation has been very great. The loss of life among the freedmen has been serious. Even if they escape the usual June overflow, there will not be the usual breadth of land of last year cropped, and it must depend upon the uplands and poorer portions of the State for any considerable crop.

Wheat.—But little of this grain has been grown—only 587,925 bushels. There has been made this year a crop fully equal to that reported by the census.

Corn.—Though this crop is ordinarily an important one, there has been a scarcity since the war and the partial failure of the crop last year. Only a small crop was harvested. Large quantities have been brought down the river to support teams and laborers in making the present crop. Owing to the high water the breadth of land planted will not be as large as last year, and a diminished crop will be the result. As a general rule the plant looks well and promises a good yield.

Oats.—The census reported 221,235 bushels, and the crop bids fair to largely exceed these figures this year.

Rice and tobacco.—These crops have not been important in this State, as the census reports only 809,082 pounds of rice, and 159,141 pounds of tobacco. There is but little planted this year, and the crop will practically amount to nothing.

LOUISIANA.

This is an important agricultural State and has some of the most valuable lands in the Union; it is the only State, except Texas, where cane sugar can be profitably cultivated to any extent. The product by the census was 221,726 hogsheads of sugar of 1,000 pounds each, and 13,439,772 gallons of cane molasses. Florida made 1,669 hogsheads of sugar, and 436,357 gallons molasses; and Georgia 4,167 hogsheads of sugar, and 546,749 gallons of molasses; and Texas made 5,099 hogsheads of sugar, and 408,358 gallons of molasses. The aggregate of cane sugar made in the Union was 230,982,000 pounds; of cane molasses, 14,963,996 gallons; while the aggregate of maple sugar for the same time was 40,120,083 pounds, and maple molasses 1,597,589 gallons, and 6,749,123 gallons of sorghum molasses, showing the great importance of the lands which can be profitably cultivated to sugar cane.

Sugar cane.—There are comparatively but few plantations of cane being cultivated this year, owing to the flood, to the want of seed cane, and the scarcity of capital, and of reliable labor. It is very doubtful if one-fourth of the plantations cultivated before the war are now under cultivation, though great profits which might and can be realized would naturally be supposed to tempt capital to embark in their cultivation. Sugar plantations of the first quality, near New Orleans, can now be bought for less than \$20 per acre, that would net not less than \$100 per annum in sugar; for the want of seed cane to stock them, and capital to work them, they are abandoned now and rapidly being grown up to cottonwood and other brush.

Wheat and oats—These crops were simply insignificant, being only 32,208 bushels of the one, 89,377 bushels of the other, reported. Equally abundant crops of each will be made this year, and hereafter the cultivation will largely increase.

Corn.—This crop will largely exceed that of last year, though far behind the one reported in the census, which was 16,853,745 bushels. Off from the bottoms, the plant looks well and promises a good yield.

Rice.—This crop has been cultivated to some extent, as the census reports 6,331,257 pounds. Very little land is now under cultivation, and the crop will be hardly worth mentioning.

Tobacco.—This plant seems to have been but little cultivated; the crop is reported at 32,901 pounds, by far the smallest in any cotton State. I could hear of but little being planted, generally only for home use.

Cotton.—This has been the third cotton State, as the census reports 777,738 bales. The flood has so affected the best cotton lands, that it is very doubtful if there will be as much made as last year, and that was a very small crop as compared with 1860. Preparations were made in the spring for a large crop, but the flood has frustrated their calculations in a serious degree. The hands have died or are dispersed; the loss of mules by the depredations of the buffalo fly has been so large as to seriously affect team labor, and retard work on plantations which have not been reached by the flood. All these disasters combined will reduce the crop in the aggregate below that of last year. Altogether the prospects of the cotton planters in this State, and indeed on all plantations on the cotton lands of this State, and the States above on both sides of the river, are most gloomy, and will rapidly lead to the abandonment of these lands for cotton cultivation.

As I did not visit Arkansas or Texas, I can only speak of these States from

information furnished by residents whom I met along my journey. Arkansas is in much the condition of Mississippi, by reason of the flood, and the remarks in regard to that State would apply to it. By the census it appears there were made 367,393 bales of cotton and 17,823,588 bushels of corn. Both of these crops may be larger in the aggregate than last year, but will be small as compared with those reported by the census.

Texas has suffered less than any other southern State from the war, and last year was a productive one in her agricultural products. The planters have made preparations for a large crop of cotton this year. The census crop was reported at 431,463 bales, and it is expected that half of that number may be reached this year. I shall not be surprised, from present appearances, if the crop reach even more than that, while the corn crop will probably exceed that made before the war. The agriculture of Texas is in a highly prosperous condition.

The "Ramie."—While in New Orleans my attention was called to specimens of the *Boehmeria tenacissima*, introduced from Java via Mexico by Don Benito Roezl. It is a valuable plant, and may be destined to have an important bearing upon the agricultural interests of the South and the nation. I saw it growing in the propagating garden of the Agricultural Fair Association. These will be on exhibition at their fair in November, with fabric and fibre.

MISSISSIPPI FLOOD.

My attention was called to the deplorable condition of the country which had been devastated by the overflow of the Mississippi river. The flood had become serious in its magnitude at a much earlier period of the spring than usual. Its volume was expanded by the early breaking up of the Missouri and its mountain tributaries, and the annual overflow of the Ohio and its tributaries was thus met by the unseasonable flood of the Missouri, which, together with the unusual overflow of the rivers below the Ohio, combined to make the flood of this spring one of the most memorable in regard to its magnitude and its destructive consequences.

For over a thousand miles from Cairo to Fort St. Francis the country on each side of the river was submerged for the average distance of thirty miles, making an aggregate of full sixty miles wide by one thousand miles in length, that was covered by a depth of water varying from many feet to a few inches.

Large preparations had been made to try and repair the losses which had been incurred the last year by the partial failure of the crops from various reasons. In innumerable instances that came to my knowledge they had reached from five thousand to even twenty thousand dollars, and returning prosperity or total ruin was involved in the results of this year's crops. Perhaps in no section of the South have more desperate efforts been made than on the bottom lands of the rivers which have been so sadly affected by this great flood. Hundreds of planters have risked their all, the result must be a serious loss. The levees have been destroyed by war and by the flood. Always expensive, and in the most prosperous times requiring constant supervision, and heavy annual repairs, they have been so long abandoned that where five years ago there were open and well cleared lands, the cottonwood has grown up in a thick jungle from twenty to sixty feet high, and the clearing for a crop would involve greater labor than was required to clear off the original forest, though that involved the clearing of cottonwood trees of enormous size.

I am satisfied that upon all the lands which have been inundated not half a crop will be raised. A very large breadth that had been prepared and partially planted has been abandoned entirely, owing to the loss and dispersion of labor in the freedmen and the mules, and the lands thus abandoned would under favorable circumstances have produced at least a bale of cotton to the acre. The

cotton culture was concentrating on these lands from the less fertile and productive States east, and any calamity which befalls the plant here must be felt in the aggregate of the crop. There can be little doubt as to the crop being at least half below that of last year, and not one-tenth part of the crop reported in 1860, and which has been mentioned in another part of this report.

How these lands, so valuable for the future cultivation of sugar and cotton, are to be saved, is a question of serious import to the whole people of the Union. By consulting the very exhaustive and invaluable report made by Captain Humphreys and Lieutenant Abbott, upon the Mississippi river, much matter of the utmost importance will be found.

They have divided the valley into two sections, one above and the other below Red river. Of the section above there is not less than 6,000,000 acres tillable, which if once reclaimed would not be worth less than \$25 per acre. If well under cultivation \$10 per acre would not be considered a high rent. Below the Red river there was more than a million acres under cultivation which was then valued at \$100 per acre, making an aggregate of upwards of seven millions of acres, of the value of two hundred and fifty millions of dollars.

To reclaim and protect this land will cost not less than \$25,000,000, with all the work now done in the way of protection. They show that the only safe and sure method is by levees, and to make them effective and ultimately useful they should be done by the general government, and upon a plan which they have mentioned after long consideration, and submit in their report. The cost would be less than four dollars per acre, and would be cheerfully paid by the land owners, or could be easily collected from the land, as its enhanced value would insure its prompt collection.

I would suggest that the subject has a national importance that will warrant you in calling the attention of Congress thereto.

Of the various crops mentioned in the foregoing report, cotton has the most dangers to surmount. It is hardly possible that the plant will be equally successful over the large region where it has been planted, or that it will escape the many enemies that usually assail it in its progress. I can only say that a partial failure will be considered most disastrous by nearly every planter who has engaged in its cultivation.

I am, sir, most respectfully, your obedient servant,

THEODORE C. PETERS.

Hon. ISAAC NEWTON,
Commissioner of Agriculture.

IMPORTATION OF SHEEP.

There is a general revival of interest in long-wool sheep. The Cotswolds, of the improved English breeds, are the most popular. Mr. Burdett Loomis, of Connecticut, proposes to go to Europe for the purpose of enriching his flocks with the best blood attainable. Others have recently made valuable importations. The following correspondence has arisen from the anxiety of importers to conform to the Treasury regulations relative to rinderpest:

DEPARTMENT OF AGRICULTURE,

Washington, D. C., June 15, 1867.

SIR: A correspondent of this department, an importer and breeder of thorough-bred long-wool sheep, is desirous of knowing whether, under present instructions for executing the law of Congress guarding against rinderpest, any restriction of the importation of such stock now exists. I have never heard of

an authenticated instance of communicating the infection through sheep, and rarely has any of the race taken the disease, even in the midst of herds dying of the most virulent forms of rinderpest.

While extreme caution, as long as the danger exists, is highly important, the wool interests of this country would be greatly subserved by the introduction of improved English stock from districts which have been entirely free from rinderpest for the last ten or twelve months.

The information sought will prove important to many others.

I am, sir, your obedient servant,

J. W. STOKES,
Acting Commissioner.

Hon. HUGH McCULLOCH,
Secretary of the Treasury.

TREASURY DEPARTMENT,
June 15, 1867.

SIR: Your letter of this date has been received, inquiring if the laws and regulations guarding against the introduction of the rinderpest prevent the importation of sheep, and in reply you are advised that the law is pointed only at neat cattle, and the hides of neat cattle, and that there has been no restriction placed upon the importation of sheep. I would suggest, however, that as it is said the disease is sometimes communicated through the medium of wool, either in the fleece or upon the sheep, it would be prudent to cause sheep coming from countries where the disease prevails to pass through a disinfecting process if practicable.

I am, sir, very respectfully,

H. McCULLOCH,
Secretary of the Treasury.

Hon. J. W. STOKES,
Acting Commissioner of Agriculture.

THE SCAB IN TEXAS SHEEP.

The following is furnished by Thomas Affleck, a well-known citizen of Texas, residing at Brenham, Washington county:

"The writer, a citizen of Texas, anxious to inform himself thoroughly of the causes which make sheep-farming, whether in breeding or feeding, so successful in the little island of Great Britain, whilst very moderately so in the United States, made this the subject of close investigation there during the past winter. The results may be of general interest; but especially to those engaged in sheep-farming in the southern and western States. There is no other branch of farming in which so much has been made during the past twenty-five years in Great Britain, as in this; and that, be it understood, in the regular breeding and feeding of sheep for their wool and mutton.

"Mutton is a much more popular article of food in England than in America, and is always fed up to the highest point of perfection, as to fatness, attainable at the early age at which the animal is slaughtered.

"To my taste, with the exception of an occasional slice or rib of the black-faced mutton of Scotland, fed more on grass than on turnips and oil-cake, it is generally surpassed in delicacy of flavor and juiciness by that fed upon the *Bermuda grass* of Mississippi, or the *mesquit grass* of Texas.

"It is unnecessary to discuss here the different breeds, and their comparative excellence for mutton or wool. All are bred, fed, and handled with the utmost

care, system, and judgment; and this with a view to both mutton and wool. Combing-wools seem now to be most valued and carefully bred. There is none of this class imported which competes successfully with that of British growth, unless it be some from Australia and New Zealand, the yield of long-wooled breeds exported thither years ago, and now composing large flocks there.

"Cross-bred sheep, as they are called, are favorites with most feeders; and for certain purposes the wool of some of the crosses is highly valued. Leicester tups bred to Cheviot ewes make a popular cross. Both parents, in every case, are kept pure for the purpose. And it seems to be universally conceded that the *first cross* is alone desirable. It is seldom carried further, unless by way of experiment. The conclusion I arrived at is, that to constant and systematic care is ascribable the almost uniform success in this business in Great Britain.

"To one point of exceeding interest to us, in Texas, I gave much attention. Just before the war, certain lots of Merino tups, infested with that dreadful pest the *scab*, were brought into the State, and having been readily bought up for the further improvement of flocks, disseminated the disease all over the State. During the war the usual remedies employed for destroying the scab insect were not readily attainable, or could not be spared for this purpose, so that the pest spread more and more, almost exterminating many flocks, and these always of the finest-wooled Merinoes. Some persevered most faithfully, under every difficulty, in their efforts to eradicate the disease, employing various means, as strong lime-water with sulphur, tobacco ooze, arsenic, &c.; but, as is supposed, without complete success in any instance. Mr. G. W. Kendall, in one of his valuable articles in the Texas Almanac for 1867—valuable, because always honestly true, and to the point—recounting failures as well as successes, hopes to succeed by the use of tobacco.

"I could not learn of any entire cure by this means alone, either in Great Britain, Australia or New Zealand, in which colonies *scab* well-nigh ruined the flock-master in spite of tobacco, sulphur, arsenic, &c. The insect may be destroyed in the flock by the repeated and persevering use of these ingredients, but their effect is soon dissipated. The insect is still present in the range or sheep-walk, and on every tree or post against which the poor tortured animal may have rubbed itself; or a single infested spot on a single animal of the flock may have been overlooked, and soon proves sufficient in the clear atmosphere of the colonies named, so like our own, to infest the entire flock. Moreover, all of these remedies, together with mercurial preparations, hellebore, &c., are dangerous both to sheep and shepherd; and, as was pointed out to us by wool-buyers and consumers, all render the wool more or less harsh, and tender in the staple. This was sought to be remedied by the use of oily compounds. In old times, and to some extent in the highlands of Scotland even yet, sheep were smeared with a mixture of pine tar and palm oil, or cheap butter. But the damage to the wool by staining, &c., is so great as to have caused its abandonment, except upon open-fleeced breeds in exposed ranges.

"The discovery within a few years of the acid of coal-tar, known as carbolic, cresylic or phenic acid, and of its effects upon insect life, and as a most powerful disinfectant, antiseptic, and curative and cleanser of sores and wounds, has produced a complete revolution in sheep-dips.

"Certain manufacturing chemists in England made and patented saponaceous and other compounds of cresylic acid. One of these, a cheap compound of the crude acid with fatty matters, made slightly saponaceous, and known as McDougall's sheep dip, has come into almost universal use.

"The writer, finding this to be the case, as the result of his search after a means of ridding Texas of the pest, followed up the subject from the laboratory, the farm of the sheep-walk, to the wool market and the factory, and found the report to be, with hardly a dissenting voice, that it supplied the great desideratum—a cheap means of destroying vermin and curing cutaneous diseases in

sheep, and preventing their return for some months after each dip, even in an infected range; healing and cleansing to the animal; harmless to the operator; increasing the growth of wool, rendering it at the same time soft and without discoloration.

"Much more was claimed for this acid which would need confirmation by experiment here. Cresylic or carbolic soaps are made of various qualities, for different uses. The coarsest is this sheep-dip, being made of crude or undeodorized acid, and is used upon dogs in the kennels and elsewhere, driving off and preventing fleas, curing mange, &c., to prevent ticks on cattle, horses, &c. A hard brown soap in bars, partially deodorized, is required to be used in hospitals, infirmaries, jails, barracks, on ship-board, &c.; being, at the same time, a powerful disinfectant. A better quality is coming into general use in families for washing clothes, bedding, &c. It is asserted that neither fleas, bed-bugs, nor any other vermin will touch clothing so washed; and more wonderful still, that mosquitoes will not touch face or hands washed with the cresylic hand-soap before going to bed. The acid is found to be a complete preventive to the destruction of all wooden structures in the East Indies by the white ant, and is also said to be the basis or active principle in all the preparations offered for preventing the fouling of the bottoms of iron ships. The British government requires the free use of McDougall's disinfecting powder on board of all emigrant and troop ships, in barracks, &c. Altogether, it would appear that science has discovered in this acid a great boon to man, and especially to the agriculturist in the country.

"To us, in Texas, it will prove of great value. The greatest trouble, and almost the only one which the energetic and systematic stock-breeder here has to contend with, is what we know as the *screw-worm*, the maggots of a large gray fly, which are deposited instantly upon a fresh wound, or even a drop of blood following a mosquito or fly-bite. The maggots quietly penetrate the skin and eat rapidly into the flesh. Horses and sheep, if not attended to at once, suffer terribly; cattle are more easily cured, and swine cure themselves by wallowing in the mud. Calomel, put in the orifice, is the most common remedy. Chero-kee liniment is also used largely. But both are costly, and the latter is severe in its effects. From what I have seen of its application in like cases, I shall use the cresylic sheep-dip as a sure and cheap remedy. I learn that the value of this acid had been discovered by chemists in the United States, and a company has been formed in New York for the manufacture of soaps, sheep-dip, &c. If so, it is important that the fact should be made public and thus save the trouble and cost of importation. The sheep-dip, as used in Europe, is a black and stiff soft soap, put up in tin cans, kegs, barrels, &c.; smells strongly of coal tar; is dissolved in soft water until about the consistency of rich milk, into which the sheep are dipped immediately after shearing, and again in the fall. Ten pounds of the composition, costing five shillings, are sufficient for fifty sheep; that is, the large, heavily fleeced English sheep. Each animal is kept in the bath a full minute, and where scab is present, some of the dip is rubbed well into the infected spots.

"Sheep-dipping is largely followed as a business. A light wagon to carry a barrel of the composition, with a nest of three or four oblong tubs of galvanized sheet iron, is all the stock in trade. These dippers, buying the article in bulk, get a liberal discount; and charging about twopence a head, make a good business of it at five shillings for enough to dip fifty sheep; the cost is about two and a half cents, coin, per head. Wages, &c., being higher here, the charge would be somewhat more.

"Every flock-master with whom I conversed claimed that the increased growth of wool was greater than the cost of dipping. As the obnoxious effect to insects continues for months, the animals are not again infected even though the causes might still exist in the range or upon an occasional sheep."

VOLUNTEER OATS.

Samples of oats are received from George Clendenin, of Glenwood, D. C., four feet six inches in height, and promising to be unusually heavy, which were sowed a year ago, and ploughed under in September last, the ground being seeded with timothy. They have grown with the timothy, and will probably yield a third of a crop of heavy oats. Mr. C. proposes to sow them in the fall, and make an attempt for a crop of winter oats.

SALMON PROPAGATION IN AUSTRALIA.

An interesting experiment in pisciculture has resulted successfully. An attempt was made to hatch salmon once in Australia, which had been transported sixteen thousand miles in ice, and the result after three years of effort and waiting, by Mr. James Youl, Edward Wilson, and others, is a fine run of veritable salmon up the Derwent, and a promise of future abundance for local consumption and even exportation. The following statement is made by a local paper, the Hobart Town Mercury :

"It will be three years next month since the first batch of salmon ova was landed on these shores, and the joy that was felt at the discovery that they had been landed in a sound and healthy condition will not be soon forgotten. We had long been laboring ourselves, and had long had earnest friends at home laboring, for the introduction of salmon into our waters, and we look upon this, after two or three bitter disappointments, as the first step towards the realization of our wishes. Still, few were so sanguine as to think the difficulty altogether surmounted, and the majority of those rejoiced with trembling. They said let us see fish hatched from the ova first, and turned out into the Derwent next, and we shall then be better satisfied. At length both these conditions were fulfilled. And then not a few shook their wise heads on hearing that the first batch of salmon had been sent out to sea, and said they would never come back. They were either to perish for want of suitable food in these seas, or were to be destroyed by their natural enemies. But rather less than three years has been sufficient to show the groundlessness of these fears."

SALMON LADDERS.

The following plan of a salmon ladder has been exhibited at Bergen, in Norway, by a Mr. Hetting, and a model was to be exhibited at the Salmon Fishing Congress, which was to open on the 7th of the present month in London. The troughs connecting with the boxes are twelve feet long, three feet broad, and three feet in depth. The resting-boxes are eight feet long, six feet wide, and five feet deep. The last debouches into the river against the stream. No water is allowed to run through it in winter, thus avoiding the danger of bursting from ice. The author of "Sport in Norway," who communicates the information to Mr. Buckland, the English naturalist, says the salmon has been known to leap a fall of twenty feet when the water is sufficiently deep to enable them "to get a good spring."

HUNGARIAN GRASS, (*Panicum Germanicum*.)

The Department of Agriculture having recently sent to the southern and southwestern States a quantity of the Hungarian grass seed, and inquiries having been made as to its value, the manner of culture, &c., it has been deemed proper to give the information sought.

Many farmers have kept both horses and horned stock through the winter with no other feed than Hungarian grass; the animals coming out of winter quarters in a superior condition. There need be no fears of poisoning, as intimated by one correspondent; the suggestion probably arose from injuries resulting from over-eating.

This grass is now generally used and highly esteemed for forage, is used green or dry, is very productive, of quick growth, and flourishes well in dry soils.

Flint, in his valuable work on grasses, says: "The Hungarian millet has been cultivated to some extent in this State (Massachusetts) from seed received through the Patent Office. It is an annual forage plant introduced into France in 1815, where its cultivation has become considerably extended. It germinates readily, withstands the drought remarkably, remaining green even when other vegetation is parched up, and if its development is arrested by dry weather, the least rain will restore it to vigor. It has numerous succulent leaves, which furnish an abundance of green fodder, very much relished by all kinds of stock. It flourishes in somewhat light and dry soils, though it attains its greatest luxuriance in soils of medium consistency, and well manured. It may be sown broadcast or in drills and cultivated precisely like other varieties of millet."

D. B. Dixon, of Muscatine, Iowa, after experimenting with this grass, remarks: "It is luxuriant in its growth, and produces hay of the finest quality. Horses and cattle eat it with avidity. A good crop of Hungarian grass is about three tons of hay and thirty bushels of seed to the acre, while it will often go beyond and seldom falls below this. The time for cutting is when the seed is nearly ripe, and the whole plant of a fine yellow color. It may be cured in the same manner as hay. As fodder, after threshing, it is fully equal to timothy; and when fed out with the seed in, as it generally should be, it is better than good sheaf oats."

William Story, of Jamestown, Fentress county, Tennessee, says: "I send you a full account of my experiments with the Hungarian grass. On the 10th of June, 1858, I received a pint of the seed from the Patent office, and on the 11th I sowed it on a piece of rich clay land. I ploughed the ground with a shovel plough, which left the surface very rough and uneven. I then harrowed about one-fourth of the patch, leveling the surface very smooth. After sowing the seed on all the ground I again harrowed. The ground was very dry, and the weather continued hot for three weeks; consequently it was some time before the seed came up. I was soon sorry I had not harrowed all the ground before sowing, for where I had omitted this operation but few seeds came up. Notwithstanding the extreme heat of the sun the grass grew astonishingly fast, branched out beyond all expectation, and grew about waist high by the first of August. It was headed out like millet, though seeming more vigorous and hardy. By the 10th of August the heads, which were from one to six inches in length, were all turned to a golden-yellow color. I cut and threshed off the seed, and had sixty-three pints from the one pint of seed sown. I am confident that not more than half the seed came up, and consequently the sixty-three pints were the product of half a pint of seed. In Tennessee it should be sown about the first week in May, on clear and loose ground, harrowed smooth before and after sowing. One bushel of seed will, I think, sow three acres. I recommend the Hungarian grass to be the best and most nutritious of all grasses, and shall rejoice when our State shall be well supplied with it."

THE WHEAT SCARCITY.

Both farmers and consumers may well deprecate the unprincipled operations of speculators, and fear the effect of their combinations and perversions of facts.

The immense aggregation of wealth in the hands of fortunate stock and produce gamblers enables them to accomplish what would never have been attempted years ago.

As we have repeatedly shown, there has been a gradual decline in wheat production for three years past, more from diminished yield than decreased acreage, yet still leaving for the past year's consumption about five bushels per capita of population. This is ample for the people's bread, a little for export, and a surplus so much reduced, in comparison with former stocks in granary or storehouse, that speculators have been led to believe that they could control it, and compel, for a time, enormous prices from unwilling hand-to-mouth consumers; and very well have they succeeded, as \$18 to \$20 for a barrel of flour will attest.

California, with eleven millions of bushels of wheat, nearly half of which was surplus, was compelled to go abroad for a market; and owing to high prices, caused quite as much by a *cornering* process as by legitimate scarcity, was induced to make repeated shipments to New York instead of to Liverpool. Straightway telegrams were circulated, designed to show the dependence of the States upon California for wheat, the reshipment of wheat from Liverpool, the transmission of these extraneous supplies to Buffalo, and even to Chicago, until timid people were taught speedily to expect a famine.

With the first intimations of moderate success in the coming wheat harvest came a collapse of prices, as a matter of course. It now appears that there was not only wheat enough for sowing an extra breadth of spring wheat for the demand caused by heavy emigration, for the bread of our own people till harvest, but also for a larger exportation than for a similar period of last year.

A statement of British exports for the first three months of the calendar year, which is received at the Department, shows the following result, from January 1, 1866, to April 1, 1867:

	1866.	1867.
Wheat, cwt.	302, 084	680, 361
Wheat flour, cwt.	162, 412	78, 464

This is equivalent when reduced to bushels, to 917,786 bushels, in the first quarter of 1866, and 1,456,192 bushels in the same period of 1867, showing an actual increase, in this era of speculative famine of 494,406 bushels; fifty per cent. increase of wheat exports furnishes a good commentary upon the mendacity which has cost consumers more than half of the increased cost of their recently purchased flour. The invoice price (in gold) of this wheat averaged \$1 32 in the former period and \$1 42 in the latter; of flour, \$6 41 in 1866, and \$6 71 in 1867.

It is everywhere reported of late that farmers are bringing out hoarded wheat, from 100 to 200 bushels each. They are content to take prices much less than those recently offered.

It is unfortunate that newspapers are so much at the mercy of panic makers. The constant iteration of specious but deceptive facts, not to mention pernicious falsehoods, naturally begets a growing belief in the statements made, until the whole community is fearful of prospective starvation. Great care should be taken to guard against such mischief-making.

Table showing the condition of the crops, &c., on the first day of June, 1867.

STATES.	WINTER WHEAT.		WINTER RYE.		WINTER BARLEY.		SPRING WHEAT.		SPRING BARLEY.	
	Average acreage compared with last year.	Average condition on the 1st of June compared with last year.	Average acreage compared with last year.	Average condition on the 1st of June compared with last year.	Average acreage compared with last year.	Average condition on the 1st of June compared with last year.	Average acreage compared with last year.	Average condition on the 1st of June compared with last year.	Average acreage compared with last year.	Average condition on the 1st of June compared with last year.
Maine.....	10	10.6	10.1	10.4	10	10	11	9.4	9	9
New Hampshire....	10	10	10	10	10	10	11.5	10	10.4	10
Vermont.....	10.3	11.3	10	11.3	10	10	11.5	10	10.4	9.4
Massachusetts.....	10.7	12.5	10.6	12.1	10.3	11.3	11	10.7	10.7	10.7
Rhode Island .....	.....	.....	10.7	10	.....	.....	.....	.....	10.3	9.7
Connecticut	10.3	11.7	10.8	11.6	10	12	10	10.8	10.5	11
New York	10.6	11.4	10	11	9.5	9.1	11	9.7	9.5	9
New Jersey.....	10.5	11.7	10.3	11.3	10	11	10	10	8	11
Pennsylvania.....	10.1	15.5	10.5	12.1	10	11	9.7	9	9.3	10
Delaware.....	10.5	13	10	12	.....	.....	.....	.....	10	10
Maryland.....	10.4	13	10.1	11	.....	.....	.....	.....	10	9.3
Virginia.....	13.3	20	11	13	10	10.5	7	10.5	.....	.....
North Carolina.....	10.8	14	10.5	11.1	10	10	9.5	13.5	10	10
South Carolina.....	10.7	15.4	9.5	12.8	8.7	10	9.3	15.7	10	10
Georgia.....	11.1	16	10.2	12	10	12.5	10.5	14	11.5	14
Florida.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Alabama.....	10.7	16.2	10.2	11.2	10.3	11	.....	.....	.....	.....
Mississippi.....	10.7	12.3	9.4	10.3	9.5	8	10	10	12	10
Louisiana.....	11.6	10	8.5	9	.....	.....	.....	.....	.....	.....
Texas.....	8	8	8	9	8.6	9	8	6.8	6	10
Arkansas.....	13.4	10.8	9	9	12.5	11	11.7	15.5	12	15
Tennessee.....	12.5	15.3	9.7	10.3	11	11.1	10.5	13	10	10.6
West Virginia.....	9.9	18.8	10.5	13.9	9.8	12.7	11	12.3	10.8	10.1
Kentucky.....	10.5	15.3	10.1	12	9.3	11.7	9.4	9.7	9.6	10
Missouri.....	12.9	13.9	10.5	13	10.4	11.7	13.1	13.1	11	11
Illinois.....	9.8	11.5	9.8	11	9.9	10.1	12.5	11.2	9.6	10.4
Indiana.....	8.6	17.3	9.7	11	9.7	11.7	14.8	11.3	9.5	9.8
Ohio.....	8.4	26	10.1	17.4	9.2	18	13.7	11.7	10	10.3
Michigan.....	10.6	18	10	11	10.1	10.6	11.6	10	10.2	9.6
Wisconsin.....	9.7	12.2	10	11.2	9.9	10	11.5	10.7	9.5	10.5
Minnesota.....	10.5	10.7	12.3	9.5	10	10	13.5	11.3	12	10.8
Iowa.....	9.6	10.1	9.5	10.6	9.9	10.4	12.8	10.5	9.9	10.2
Kansas.....	8.3	8.7	8.7	9.1	9	9	13	10	9.6	10
Nebraska.....	8.1	7.6	9	9.2	10	8.7	19	10	11.3	9.4

Condition of the crops, &c.—Continued.

STATES.	OATS.		CLOVER.		SPRING PASTURE.		MAPLE SUGAR AND MOLASSES.		SHEEP.	
	Average acreage sown compared with last year.	Average condition on the 1st of June compared with last year.	Average acreage compared with last year.	Average condition on the 1st of June compared with last year.	Average condition of pastures other than clover on the 1st of June compared with last year.	Average condition of clover pastures on the 1st of June compared with last year.	Average amount of maple sugar made this spring compared with last year.	Average amount of maple molasses made compared with last year.	Average per centage of loss by disease or other casualty.	Average per centage of loss of lambs dropped this spring compared with last year.
Maine	9.7	9.5	10	14	11.1	12.1	9.5	9.5	5	10
New Hampshire	10	10	10	10.4	9.7	10	8.2	8	7	10
Vermont	10.7	9.4	10	11	11.5	11.5	9	9	9	13
Massachusetts	10.4	10	10.5	12	11	11	10	6.3	4	6.5
Rhode Island	10.7	9.7	10.7	10.3	9.7	10	.....	.....	.....	.....
Connecticut	10.6	10.4	10	11.6	10.3	11.4	9.7	9.3	3	4
New York	9.2	9	10	10.5	10	10	9.3	9	5.5	14
New Jersey	10.4	10	10.4	10.7	10	10.3	.....	.....	10	10
Pennsylvania	9.5	9.4	9.7	11.4	10.2	11.1	9.4	9.2	8	14
Delaware	9	8.5	10	11	11	11	.....	.....	5	6.5
Maryland	10.3	9.7	9.8	11.3	10.5	11.5	.....	.....	8.4	15.7
Virginia	10.3	8.4	12.6	11.7	11.3	11.6	8.2	9.5	9	13.2
North Carolina	10.5	9.7	11.3	10.7	10	10.5	6	4	18	17
South Carolina	11.7	12.1	10.7	10.7	10	11	.....	.....	13	21
Georgia	12.2	11.3	13.4	10	11	9.7	.....	.....	12.3	13
Florida	10.4	10.3	.....	.....	11	12	.....	.....	21	14
Alabama	11.6	11.2	11.4	11.1	10.7	11	.....	.....	14.7	19.4
Mississippi	10.6	14.7	6.5	9.3	10	9	.....	.....	12	13
Louisiana	11	10	10	13	10	11.5	.....	.....	8.2	9
Texas	8	7.6	10.7	12.3	10	10	10	10	12	17
Arkansas	13.8	10.8	10	8	10	7.7	12.5	10	18.5	13.7
Tennessee	11.3	9.2	12.8	10.3	10	10.7	8.6	8.5	16	16.5
West Virginia	10.8	9.7	10	11.1	11	11	8.5	8.6	8	16
Kentucky	10.1	8.6	10.2	9.9	9.5	9.5	7.2	7.4	7	12
Missouri	11.9	10.8	10.6	10.7	10.6	10.6	10.4	10.5	11	20
Illinois	10.4	10.2	10.4	10.8	10.1	10.6	10.3	10.5	7	10
Indiana	10.4	9.6	9.7	10.5	9.5	10	11	11.3	17	23
Ohio	9.7	9.3	10	11.7	10.3	11.4	10.2	10	8	10
Michigan	10.9	9.6	10.2	10.9	9.6	10.5	11.7	11.3	9	13
Wisconsin	10.7	10.5	10.8	10	9.1	8.8	9.8	9.5	8.3	15
Minnesota	12	10.9	10.5	10.8	9	10	10.4	10	24	37
Iowa	11.1	10.1	10.5	10	9.1	9.6	8.1	8.2	13	25
Kansas	11.1	10	10.7	9.6	9.7	9.3	10	10	9.1	14
Nebraska	13	10	11	9	8.9	7.5	10	10	13	21

Condition of the crops, &c.—Continued.

STATES.	WOOL.	COWS AND CALVES.		APPLES.		PEACHES.		PEARS.	
	Average per centage of last year's clip of wool in the county.	Average condition of cows this spring.	Number of calves dropped this spring compared with an average of former years.	Average amount of apple bloom this spring.	Average condition of the crop on the 1st of June.	Average amount of peach bloom this spring.	Average condition of the crop on the 1st of June.	Average amount of pear bloom this spring.	Average condition of the crop on the 1st of June.
Maine.....	5	9.7	9.7	10.5	9.8	10	10	12	11.3
New Hampshire.....	20	9	10.3	8.8	9.5	11.3	11.3	11	11.4
Vermont.....	9	9.5	10	10	9.5	.....	.....	11	11
Massachusetts.....	16	10	10	9.7	10.5	11.6	11.6	11.3	10.8
Rhode Island.....	.....	9.7	9.7	8	10	11.7	11	11	10
Connecticut.....	15	10	10	10.4	10.4	12.3	14	11.8	11.6
New York.....	16	10.1	10	11.1	11	9.7	10.5	10.6	10.5
New Jersey.....	52	9.7	10	9	11.6	11.6	11	11.8	10.5
Pennsylvania.....	5.3	9.7	10.2	10.5	11	9.8	9.1	11.7	10.2
Delaware.....	.....	10	10	11.5	12	14	13	12	12
Maryland.....	10	9.5	9.1	10.2	9.5	12.1	10.4	10.5	9.7
Virginia.....	31	10	10	13	13.4	17	16	12.1	11.3
North Carolina.....	17.6	10.1	10	9	9	11.3	11.8	8.5	8.5
South Carolina.....	38.2	8.9	7.2	8	9.2	10	7.8	8	6.4
Georgia.....	26.5	10.2	9.5	8.6	8	10	9.5	9.6	6.4
Florida.....	.....	11.7	11.7	.....	.....	12.6	12.3	10	10
Alabama.....	5.5	10.3	9.6	8.7	4.5	8.7	3	8	7.1
Mississippi.....	34.4	10.5	10	7.6	4.1	10	1	9	3
Louisiana.....	37.5	10.5	9.8	11	8.5	8.7	4	10	5.5
Texas.....	24.2	10.3	10.5	9.1	9.1	8	3.5	8.8	9.5
Arkansas.....	56.7	11.2	10.6	9	9.7	8	8.4	8.7	9.4
Tennessee.....	35	10.4	9.8	6	6.7	7.5	5.6	6.5	6.2
West Virginia.....	14	10.3	10	13.6	15.1	15.5	15.9	12.2	12.7
Kentucky.....	10	10	10.1	13.3	12.5	10.5	10.7	11.2	10.6
Missouri.....	17	10	10.5	13.4	12	13	12.7	12	11.8
Illinois.....	4.5	10.2	10	12.5	11.1	15.2	14.1	12.5	11.2
Indiana.....	7	10	9.6	14	12	12.4	11.1	12.6	11.5
Ohio.....	4	10	10.3	18	16	25	23	20	16
Michigan.....	9	9.7	10.2	13.7	12.6	21	17	11	13
Wisconsin.....	12	8.6	10.4	14.2	14.3	.....	.....	15	15.6
Minnesota.....	8	8.2	10.5	11	11.5	10	10	10	10
Iowa.....	12	8.6	10.5	13.5	11.9	16.9	13	14	12.6
Kansas.....	9	8	11.2	14.4	12.8	9	11.1	11.4	10.1
Nebraska.....	12	8.7	11	14.4	12.4	27	24	14	13

REMARKS IN EXPLANATION OF THE ABOVE TABLES.

Wheat.—Rarely has a season been noted in which so few complaints have been uttered by farmers, and so much cheerfulness expressed, in view of the prospect for a wheat crop. Few of our correspondents make any mention of winter-killing, of insects, or of rust. In some parts of the south there has been some complaint of rust, but it has been mainly confined to the leaf, while the grain was so nearly ripe as to be little liable to attack. The harvest has been gathered in Georgia and the other Gulf States, with a very gratifying result.

The acreage of winter wheat is as large in a majority of the States as last year, though it is less in a few of the principal wheat-growing States. Texas, Kansas, Ohio, Indiana, report a diminished acreage; Virginia, Georgia, Arkansas, Tennessee, a largely increased breadth; the New England States show a slight increase; the middle States a similar advance, not exceeding six per cent.; the southern wheat-growing States an average increase of twenty per cent.

In point of "condition," the facts are still more encouraging. Ohio reports an average improvement upon last year of 160 per cent.; Indiana, 73 per cent.; Illinois, 15 per cent.; Michigan, 80 per cent.; Wisconsin, 22 per cent.; Minnesota, 7 per cent.; Missouri, 39 per cent.; Kentucky, 53 per cent.; Virginia, 100 per cent.; North Carolina, 40 per cent.; Tennessee, 53 per cent.; and other States, with the exception only of Texas, making a favorable comparison with last year.

The acreage of spring wheat is largely increased; in Ohio, 37 per cent.; in Indiana, 48 per cent.; in Illinois, 25 per cent.; in Minnesota, 35 per cent.; in Wisconsin, 15 per cent.; in Michigan, 16 per cent.; in Missouri, 31 per cent.; in Iowa, 28 per cent.; in Kansas, 30 per cent.; in Nebraska, 90 per cent. This increase of breadth, in the wheat-growing region, must tell very perceptibly upon the aggregate yield, if no unusual casualty awaits the maturing crop.

It is quite too early to estimate in bushels the final result of the harvest. If the conditions continue favorable, however, at least two hundred millions of bushels may be expected in all the States and Territories.

Barley.—An average acreage of winter barley has been sown in a majority of the States. A decrease of five per cent. is estimated for New York; Ohio, eight per cent.; Indiana, three per cent.; an increase in Tennessee of ten per cent.; and in Arkansas of twenty-five. On the whole, there is a very slightly diminished breadth of winter barley, but the increase of the spring sowing will compensate for the deficiency.

Clover.—The condition of clover is good throughout the country—unusually fine in Ohio and the middle and New England States; in Pennsylvania it is somewhat better than in New York, and in Maine and Massachusetts comparatively more flourishing, as compared with last year, than in the remainder of New England.

Oats.—The acreage of oats is larger than usual; in the west Ohio is the only State which cannot show an increase. The crop is somewhat variable in condition; in the south, far above an average; in New York, ten per cent. below; in Pennsylvania, six per cent.; in Kentucky, fourteen per cent. In the west generally the prospect is better than last year.

Wool.—In the principal wool-producing States, as will be seen, but a small quantity of wool is yet on hand.

EXTRACTS FROM CORRESPONDENCE.

LOCUSTS.

Wilkesboro', N. C.—While writing I may as well tell you something about the locusts—the mysterious war-winged insects visiting us once only in seventeen years, and then coming by stealth in the night time, and often “holding high carnival” for forty days, falling exhausted in the fields and roadways, to be consumed by the hogs, birds, and ants. These noisy little strangers have made their appearance in a wide belt of country a few miles northwest of this town, extending far northeast and southwest, embracing the Blue Ridge and running with it, and being from thirty-five to forty miles broad; the western limit being near the foot of the Stone mountain. The “oldest inhabitant” states that this identical belt of country was visited by them, as now, in 1850, and not since, and it is a subject of remark, and excites our wonder that the line as drawn then is identically the same now. Hogs were the first to herald the approach of the millions, and they have been the gainers by the discovery, as the delicate, sweet, fleshy morsels have kept the swine greasy enough for pork the whole time since frost came out of the ground. Hogs feed upon them to advantage till they crawl up a tree or fence, where they split on the back and come out flies, after which the exhausting, dying process renders them innutritive, and some say pernicious. They are now well established in their leafy home, and a more disorderly, noisy assembly never congregated. Hunters say that deer and other timid game avoid the locust belt when it is in eruption. I am informed that beyond this belt for a considerable distance locusts have never been seen. Is it because of the proximity and contact with limestone?

THE COTTON AND BOLL WORM.

Parish of Jefferson, La.—Allow me to call your attention to the destruction of the cotton crop by the worms, which appear to increase yearly. In 1864 I planted about one hundred acres in cotton. In July the worms made their appearance. Having no experience in raising this crop, I searched in the agricultural reports for information. Mr. Glover recommended the burning of trap lanterns, and I made three of them with a coal-oil lamp and tin basin, with soap-suds underneath, and burned them every night. The first night I caught about seventy-five millers and innumerable other insects. The number increased to three hundred millers, and then gradually diminished to none. For three weeks after the crops of my neighbors were destroyed I found only a few of my plants attacked; about the last week of the three I caught no millers, but all at once the catch was seventy-five, next night one hundred and fifty, then three hundred, and even up to five hundred. The worm, however, gradually made its appearance more and more, until in the middle of August my cotton was stripped of every leaf and bloom. The worm then turned in pupa. In ten days after this the miller again appeared. Meanwhile the cotton had sprouted again, and was in full bloom when the third brood made its appearance in immense numbers. In three days every leaf and young boll was eaten, and the worm was eating the bark of the plant and the glazed protection of the nearly-matured bolls. The heavy rains of September soaked into the bolls and rotted them. I made only three bales of cotton. In July the prospect was good for at least seventy-five bales. My opinion is that if every planter would commence burning a lantern in each five acres from the latter part of June to the middle of September for a few years in succession both the boll and cotton worm would be destroyed. The boll worm destroys about one-half the crop with us. This year none of my neighbors raise cotton. I have planted about five acres, and shall burn one lamp and inform the department of the result. Cost of

lantern and basin about \$1 50, and the oil will not cost over \$1, so that if the increase is only ten pounds of cotton to the acre it will more than pay the extra expense. The first night I used the lantern on a barrel, but the insects were alive in the morning, and it was considerable trouble to kill them. Afterwards I used the soapsuds, as it killed all the insects at once.

MILK SICKNESS IN CATTLE.

New York City.—Investigation which I have recently made induces me to think that the cause of "milk sickness" in cattle is not any one weed poisonous *per se*, but a chemical combination between the dew, the plant, and the atmosphere, whereby a solution is found which is either *per se* a dilute hydrocyanic acid, or becomes such in the stomach of the animal. I have not now the opportunity for practical investigation of the subject, but it occurred to me that the idea suggested might be worthy the attention of the department, and a fit subject for the observation of some of your western correspondents.

A RAT HUNT.

A correspondent writes us from Vermillion county, Illinois, "that the Farmers' Club, of Elwood township, recently resolved upon a general rat hunt. The members were divided into two parties with captains, who also divided the territory of the county. At the termination of the hunt the number of tails counted reached 4,671, and the total number killed was 7,400. The participants with their wives—numbering in all about 200—took dinner at the expense of the party killing the smallest number." The correspondent adds: "The damage that would have been done by these rats in one year, allowing an ear of corn per day to each rat, would amount to over \$6,500 for corn alone; and it is reasonable to suppose that this sum would be doubled, were we to include all other damages. Dividing the amount among the persons taking part in the hunt, it would pay all their taxes and leave a surplus sufficient to repair district school-houses and furnish large bells for the same. Let other communities try a rat hunt, and they will have fine sport, sure remuneration, and unmolested sleep at night."

SORGHUM IN CONNECTICUT.

Lyme, Conn.—The amount of sorghum molasses manufactured in this part of New London county for the year 1866 is as follows:

J. F. Laplace, Lyme, (oldest mill).....	5, 000	gallons.
Gideon Rogers, Lyme, (new mill).....	1, 700	"
W. and A. Gorton, Waterford.....	1, 300	"
Luce Brothers, East Lyme.....	1, 600	"
Total.....	9, 600	"

Dr. Liffingwell, Norwich, has a small mill, but the quantity of molasses manufactured is unknown.

"THE DOG NUISANCE."

Giles county, Tenn.—I wish you would urge Congress to pass a "dog law." Negroes who have not a month's rations on hand keep from two to five worthless curs. My nearest neighbor has three families of negroes living with him, and I am told there are fifteen dogs on the place. As the production of cotton will probably continue to fall off, it is important to encourage the growth of wool. * * * Should the hog cholera increase, and no remedy be discovered, we must grow beef and mutton instead of hogs.

SHEEP RAISING.

Livingston county, Illinois.—Our first year's experience in keeping sheep, dating from August, 1865:

DR.		
Cash paid for eighty-three sheep.....	\$277 65	
Seven tons of hay.....	35 00	
One hundred twenty-five bushels of oats.....	18 75	
Shearing expenses.....	20 00	
Interest.....	27 76	
	<hr/>	\$379 16
CR.		
Thirty-five lambs raised.....	70 00	
Wool, 400 pounds at 48 cents.....	192 00	
Three pelts.....	3 00	
Three sheep consumed by family.....	12 00	
Eighty sheep on hand at \$3 50 per head.....	280 00	
	<hr/>	557 00
Net profit.....		<hr/> <hr/> 177 84

We prefer a good grade Merino to either Cotswold, Southdown, or Lieicester.

BEST MODES OF CULTURE.

Oceana county, Michigan.—In looking over agricultural papers and reports I am sometimes surprised that a very natural and efficient mode of culture of some of our most common productions is not recommended. I have only a garden here, and the land is light-drifting sand, and not favorable to experimenting, but in the southern part of our State I have marked the results of different modes of cultivation. To cut off the seed end of potatoes and plant the stem end is as natural as to serve corn so, and the result is very advantageous; also with cucumbers, squashes, or anything from which we save the seed, the stem end is best. I find in planting peas, that by covering them six or eight inches deep they will continue to blossom and bear as long as we want green peas. In transplanting trees, setting them to the same point of the compass as occupied before removal makes a striking difference in the growth. So on through the whole course; to observe nature's laws is a great advantage.

POULTRY DISEASE.

Washington, Iowa.—There is a disease prevalent here among our poultry which I have not seen noticed in any agricultural journals. It goes by the name of cholera in this vicinity. Often the first evidence we have of the existence of the disease is in finding chickens lying dead in the morning where they had fallen from their roost. My turkeys and chickens have just got through with it. I watched the symptoms closely. The eyes look dull and heavy, and the small feathers on the top of the head ruffle up and appear to stand on end. The sick huddle closely together. When the fever comes on they pant considerably and want water. Their dung is quite soft, and about two-thirds of it as white as chalk, the remainder being a bright green. They usually die in from twenty-four to forty-eight hours; sometimes they lose the power of moving when they live longer. I never knew one to recover. Geese and turkeys have it as badly as chickens. When a flock is attacked about two-thirds usually die. The disease started soon after the hog cholera prevailed here. If any of your readers can suggest a remedy we should be pleased to hear from them through the Monthly Report. Horses have also had a similar complaint, which has been

cured by giving them salt and water to drink. * * * The fruit buds of the apple tree are covered with a very small green bug, having six legs and two antennæ.

CROP PROSPECTS IN GEORGIA.

Homer, Georgia.—The prospects were never more flattering in this section for a bountiful yield of wheat and corn, though the rust has made its appearance in the wheat in some places. Don't you think that it would be an advantage if our farmers would order their seed wheat from the north, say from the valley of Virginia, to sow next fall? I think so, from the fact that there has not been a change in seven or eight years; the same wheat has been sown every year, and rust and smut have appeared in it annually. Please give your opinion in the Monthly Report.

[A change of seed would undoubtedly be beneficial; and as the wheat zone extends far north of Georgia, seed from a more northern locality, say Maryland or Virginia, would prove an advantage. Our correspondents uniformly report favorably of the Tappahannock wheat distributed from this office.—EDS.]

PEACHES IN DELAWARE AND MARYLAND.

A letter from the venerable John Jones, of Middletown, Delaware, says:

The season has now arrived when fair estimates may be made of the growing crops; and I am glad to inform you that the apple crop of Delaware, as well as peaches, wheat, oats, and hay, never looked more promising. I attended a convention of peach growers of Delaware a few days since, at Dover, and from the best estimate that could be arrived at the peach crop of Delaware and the eastern shore of Maryland was placed at 3,000,000 baskets.

CROP ITEMS.

A correspondent writing from Greensboro, Georgia, says: "Some of our planters have been compelled to cut their wheat to feed their horses and mules, which I deeply regret, as we want all the cereals to feed our half-starved and suffering people."

Another correspondent, writing from Milledgeville, Georgia, writes that the corn crop of his locality is very unfavorable, the "bud worm" being unusually destructive to the young plant, it striking through the centre of the bud and destroying it.

De Vall's Bluff, Arkansas.—Wheat, rye, and oats are nearly a total failure here, from the rust, caused by the excessive wet spring, much rain having fallen since January, and everything is very backward; and should it be followed by drought as usual, there will be great destitution.

METEOROLOGY.

APRIL AND MAY, 1867.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and amount of rain, (in inches and tenths,) for April and May, 1867, at the following named places. The daily observations were made at 7 o'clock a. m. and at 2 and 9 p. m.

[Compiled in the Department of Agriculture from the reports made by observers for the Smithsonian Institution.]

States and places.	APRIL, 1867.						MAY, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MAINE.												
Steuben.....	16	59	13	26	38.8	5.66	28	70	3	31	47.4	7.50
Lee.....							29	70	4	31	53.0	6.10
Prospect.....	29	60	14	26	41.0							
Williamsburg.....	16, 26	52	14	19	35.7	4.30	28	65	3	29	46.1	8.40
West Waterville.....	20	67	13	29	41.4	3.42	28	71	4	34	51.6	4.87
Gardiner.....	16, 21	56	13	28	41.0	4.96	28	69	4	36	51.3	5.27
Lisbon.....			24, 28	32		4.65						8.76
Webster.....	16, 21	58	13	27	39.9							
Standish.....	21	62	14	28	41.5	4.53	27, 28	74	3	34	52.1	5.26
Rumford Point.....	16	65	12	21	39.8	3.80	28	74	4	30	52.1	7.45
Cornish.....	15, 20	60	14	24	40.4	4.34	28	72	3, 4	32	49.8	4.09
Cornishville.....	16, 20, 23, 26	57	13	27	40.5	3.98	25, 28	72	3	32	50.6	3.49
Averages.....					40.0	4.40					50.4	6.12
NEW HAMPSHIRE.												
Portsmouth.....	25	63	13	30	46.2	5.31	28	71	4	32	53.5	3.31
Stratford.....	20	59	14	16	36.4	4.07	25	68	3	26	47.0	6.23
North Barnstead.....	15, 19, 26	64	27	30	43.6	3.95	28	72	3	34	51.1	3.72
Concord.....	15	65	6	28	43.5	3.75	25, 28	72	3	32	54.0	3.92
Claremont.....	15, 16, 26, 27	60	14	24	43.4	3.91						
Averages.....					42.6	4.20					51.4	4.30
VERMONT.												
Lunenburg.....							22	72	4	24	49.1	10.38
North Craftsbury ..	20	58	13, 14	25	35.9		25, 28	64	3	28	47.3	6.88
Randolph.....	15, 26	60	14	19	39.3	4.17	28	72	3, 4	28	50.7	6.03
Middlebury.....	26	67	13, 14	28	41.5	4.51	1	70	3	31	51.7	7.19
Brandon.....	15	65	13	28	43.2	4.36	21	75	3, 4	32	53.2	7.62
Barnet.....							29	73	12, 17	42	54.3	6.15
Averages.....					40.0	4.35					51.1	7.38

Table showing the range of the thermometer, &c., for April and May—Cont'd.

States and places.	APRIL, 1867.						MAY, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MASSACHUSETTS.		°		°	°	In.		°		°	°	In.
Kingston	30	70	14	25	43.4	2.00	25	68	4	33	50.7	4.25
Topsfield	15	66	13	34	49.0	2.15	25, 28	72	3	37	55.5	3.67
Lawrence	15	67	14	31	44.5	2.81	27, 28	71	3, 4	34	50.4	3.46
Georgetown							28	72	4	32	52.9	-----
Newbury	15, 30	68	14	27	44.5	-----	30	74	3, 4	33	53.7	-----
North Billerica	15	69	14	30	-----	-----	25, 30	77	3, 4	32	54.7	-----
West Newton	15	76	29	26	41.1	-----	25	80	3, 4, 5	38	55.4	-----
New Bedford	21	65	13, 28	33	45.7	3.48	28	73	3, 4	38	53.5	3.67
Do	21	66	13	32	47.1	3.04	28, 29	75	4	36	55.2	3.70
Worcester	15	69	14, 24	30	46.5	2.56	28	75	4	36	54.3	4.91
Mendon	15	67	14, 28	32	44.3	-----	28	77	3, 4	33	53.6	-----
Lunenburg	15	65	14	29	44.6	2.10	28	76	4	34	53.3	8.10
Amherst	15	66	14	29	45.5	3.79	28	76	3	36	54.1	4.61
Richmond	8	64	3, 7, 21, 29	30	44.6	7.59	28	80	3	28	54.4	9.47
Williams College ..	15	68	13, 14, 28	32	44.6	3.96	6	68	3	32	51.6	5.90
Averages					45.0	3.35					53.6	5.17
RHODE ISLAND.												
Newport	19, 26	63	14	30	44.0	2.34	29	78	3, 4	35	53.3	3.29
CONNECTICUT.												
Pomfret	15	67	14	29	44.2	2.26	28	74	3	33	52.7	5.07
Columbia	8, 13, 15, 21	64	28, 29	32	46.5	-----	27	80	3	35	54.0	-----
Middletown	8	69	14	33	49.2	2.44	28	81	4	36	55.9	4.53
Colebrook	15	69	28	28	44.1	-----	28	76	2	32	57.4	-----
Groton					2.39	-----						
Averages					46.0	2.36					55.0	4.80
NEW YORK.												
Moriches	19	70	12	36	50.9	1.33	29	80	3	37	57.5	5.64
South Hartford	26	67	14	30	47.7	4.39	29	75	2	38	56.7	8.50
Troy	15	68	13	33	45.9	3.21	29	73	3	34	53.8	5.74
Germantown	15	72	14, 28	34	48.5	6.90	29	81	3	34	55.7	8.60
Garrison's	15	71	28	33	48.0	3.14	29	81	3	34	55.6	7.86
Throg's Neck	13	74	28	38	49.8	-----	29	82	3	37	55.8	-----
Deaf & Dumb Ins'n ..	15	68	3	37	48.8	2.47	29	79	3	35	52.8	5.70
Columbia College ..	15	71	27	38	49.8	1.96	29	81	3	37	55.6	3.94
St. Xavier's College	15	66	28	38	50.4	2.85	29	84	3	42	57.0	5.75
Flatbush	8	65	9	33	49.5	2.94	27	81	3	35	55.0	4.02
Newburgh	15	74	6	36	50.7	1.49	29	80	3	35	56.6	5.57
Gouverneur	15	70	13	27	42.3	4.42	25	69	3	31	50.3	6.92
North Hammond ..	15	68	6	24	41.3	5.60	25	72	3, 4	32	50.6	8.00
South Trenton	15	70	3	26	40.3	6.09	29	70	3	28	47.3	7.62
Cazenovia	15	72	6, 11	28	43.2	5.09	28	79	2	28	51.0	-----
Oneida	15	70	6	31	44.4	7.39	29	75	2, 3	32	50.6	12.61
Houseville	15	67	6, 11	26	41.2	5.78	29	72	3	22	48.2	6.82
Depauville	15	68	6	28	42.1	3.25	21	68	3	30	48.9	5.90

Table showing the range of the thermometer, &c., for April and May—Cont'd

States and places.	APRIL, 1867.						MAY, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
NEW YORK—Con'd.		°		°	°	<i>In.</i>		°		°	°	<i>In.</i>
Theresa	30	58	-----	-----	-----	4.36	-----	-----	-----	-----	-----	6.90
Oswego	15, 20	69	28	29	42.1	3.62	25	69	2, 3	32	47.4	6.57
Palermo	-----	-----	-----	-----	-----	-----	29	72	3	27	47.5	6.90
Baldwinsville	16	62	6	28	42.4	-----	-----	-----	3	29	-----	-----
Skaneateles	19	68	27	28	44.7	-----	29	70	2	30	50.8	-----
Nichols	15	72	28	29	46.4	-----	29	83	2, 3	32	52.4	-----
Geneva	4	73	28	26	44.4	3.91	29	70	2, 3	31	49.7	6.59
Rochester	14	73	27	29	44.0	2.93	25	67	2	28	49.5	5.69
Rochester Univ'ty.	15	71	6	29	43.7	2.93	-----	-----	-----	-----	-----	-----
Little Genesee	4	72	3	24	45.3	1.95	29	80	3	24	49.2	8.70
Friendship	-----	-----	-----	-----	-----	-----	29	79	2	26	48.7	-----
Buffalo	14	74	6	29	42.9	3.51	28	65	2	25	47.0	4.26
Averages	-----	-----	-----	-----	45.6	3.84	-----	-----	-----	-----	51.9	6.73
NEW JERSEY.												
Paterson	15	75	12	35	50.9	2.78	29	86	3, 4	37	56.3	5.97
Newark	15	74	28	33	50.6	2.58	29	80	4	35	55.3	6.55
New Brunswick	22	78	3	36	49.4	1.99	-----	-----	-----	-----	-----	-----
Do.	-----	-----	-----	-----	-----	-----	29	83	3	40	56.6	6.45
Trenton	22	74	3, 24	40	55.5	0.93	29	83	4, 6	40	60.8	5.32
Burlington	22	82	3, 6, 7,	40	53.0	1.85	29	84	3	37	57.7	8.50
			24, 28, 29									
Moorestown	22	81	28	37	51.3	1.41	29	85	3	36	56.8	7.38
Mount Holly	22	78	12, 28, 29	39	52.0	-----	29	83	4	34	57.4	-----
Seaville	22	69	28	32	53.6	7.90	29	86	3	32	57.6	9.60
Dover	13	75	30	35	50.3	2.80	29	80	3, 5	37	55.5	6.71
Readington	22	76	4	33	52.7	-----	29	86	4	30	60.4	-----
Haddonfield	22	79	28	36	51.5	1.76	29	85	3	37	56.6	6.48
Greenwich	22	82	28	38	53.5	0.95	29	86	3, 4	40	58.9	6.89
Averages	-----	-----	-----	-----	52.0	2.50	-----	-----	-----	-----	57.5	6.99
PENNSYLVANIA.												
Nyce's	15	69	3	28	44.6	3.32	29	83	3	30	50.9	11.00
Fallsington	22	78	5	37	52.0	1.90	29	85	3	37	56.7	7.75
Philadelphia	22	80	3, 28	39	53.2	1.36	29	87	3	39	58.5	7.07
Germantown	-----	-----	-----	-----	-----	-----	29	88	3	36	60.4	-----
Horsham	22	79	3, 29	38	50.9	1.38	29	82	3	38	53.7	6.67
Dyberry	4	70	12	26	43.6	-----	29	80	3	28	50.0	-----
North Whitehall	22	80	2, 7	28	49.5	-----	29	78	4	30	54.3	-----
Parkesville	22	76	7, 28	36	51.6	2.36	29	88	4	36	56.9	8.42
Stevensville	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Reading	22	78	28	37	53.3	-----	29	90	3	38	58.0	-----
Ephrata	15, 16	76	24	38	54.2	2.16	29	90	3	38	59.5	8.37
Silver Spring	-----	-----	-----	-----	-----	-----	29	87	3	37	57.0	-----
Mount Joy	22	85	28	36	53.4	0.53	-----	-----	-----	-----	-----	-----
Harrisburg	22	75	24	37	53.9	2.01	29	85	3	40	58.2	5.72
Lewisburg	15	73	24	32	49.5	4.26	29	84	3	35	54.0	8.52
Tioga	15	76	3, 27, 28	26	49.2	4.48	29	83	3	26	49.3	12.40
Fleming	4	72	3, 5	27	46.8	4.28	29	82	3	32	51.5	6.13
Pennsville	4, 19	76	6, 27	28	45.0	4.37	28	83	3	28	48.8	7.18

Table showing the range of the thermometer, &c., for April and May—Cont'd.

States and places.	APRIL, 1867.						MAY, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
PENNSYLVANIA— Continued.		°		°	°	<i>In.</i>		°		°	°	<i>In.</i>
Connellsville	14	76	6	29	51.3	.....	28	86	3	38	53.7	.....
New Castle.....	30	69	12	27	48.1	.....	28	81	3	26	51.7	.....
Canonsburg	4	80	6	28	49.4	1.37	28	83	3	36	54.4	5.10
Averages.....					50.0	2.54					54.6	7.86
MARYLAND.												
Woodlawn	22	74	19	38	52.7	2.78	29	90	3	38	60.0	7.56
Catonsville.....	15, 22	70	27	34	50.5	.....	29	84	3	38	58.7	.....
Annapolis.....	22	84	3	38	55.1	2.16	29	87	3, 4	44	60.0	6.64
St. Inigoes.....	22	78	1	30	56.6	1.56	.....		8	44	61.5	5.56
Emmitsburg	13, 18, 20	75	24	33	52.1	.....	29	82	3, 8	40	57.3	.....
Averages.....					53.4	2.17					59.5	6.59
VIRGINIA.												
Lynchburg							29	80	8	45	.....	.....
Cape Charles L. H.	22	77	3, 6, 12	42	53.4	1.69	29	86	8	40	61.7	5.40
Mount Solon	12, 21	78	5, 6	38	56.3	.....	29	92	1, 3	40	60.8	.....
Hewlett's Station..	22	86	29	44	63.6	.....	29	89	2, 8, 16	46	61.8	5.60
Surry C. H.....							29, 30	90	8	47	65.9	.....
Averages.....					57.8	1.69					62.6	5.50
WEST VIRGINIA.												
Cabell C. H	14	78	6	40	57.9	2.00	13, 28	82	9	41	60.0	4.80
Grafton	4, 14	82	1, 3, 7	30	55.0	3.13	28	90	9	39	62.7	4.88
Averages.....					56.5	2.67					61.4	4.84
NORTH CAROLINA.												
Goldsboro'	22	89	7	41	63.4	4.29	29	95	9	47	69.0	6.86
Oxford	9	81	2	35	61.1	4.60	28, 29, 30	80	8	43	64.3	6.50
Raleigh	22	89	3	36	59.9	3.10	29	93	8	43	66.0	5.80
Albemarle	22	88	7	26	58.1	3.72	28, 29, 30	88	9	34	63.8	9.73
Statesville.....	22	84	7	28	55.2	4.06	28, 29	84	9	36	60.4	6.19
Asheville.....							29	82	8	47	62.2	.....
Averages.....					59.5	3.95					64.3	7.02
SOUTH CAROLINA.												
Aiken	23	82	6	39	61.7	3.83	28, 29	86	7	51	68.9	.....
ALABAMA.												
Moulton.....	21, 22	80	6	34	60.6	8.95	12	82	8	41	68.2	1.82
Prairie Bluff	22	89	7	43	65.7	.....	12, 27, 28, 29	89	8	47	72.2	.....
Opelika	21	83	2	45	61.8	.....	28	90	8	46	69.9	.....
Havana	21	86	5	39	63.7	4.01						
Carlowlville	21, 22	84	1, 6	43	67.6	6.37	27	89	8	48	76.8	4.41
Averages.....					63.9	6.22					71.8	3.12

Table showing the range of the thermometer, &c., for April and May—Cont'd.

States and places.	APRIL, 1867.						MAY, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
FLORIDA.												
Fernandina	30	86	3, 6	50	63.3	2.23	10	86	8	50	72.4	2.60
Gordon							12	95	9	48	74.3	.....
Port Orange	10, 24	83	13	57	72.1	.....						.....
Averages					67.7	2.23					73.4	2.60
TEXAS.												
Austin	21	92	1	46	67.9	1.45	9	92	1	58	73.9	1.30
Waco	7	83	29	42	60.6	5.80	9	92	1, 7	51	73.0	6.50
Houston							18, 19, 27, 30	94	7	56	75.6	.....
Columbia	9, 23	93	1	40	71.3	2.70	31	93	7	52	76.3	8.18
Averages					66.6	3.32					74.7	5.33
LOUISIANA.												
Vidalia	29	88	1	46	68.4	12.00	27	94	6	58	73.5	15.00
Benton							27	85	5, 6	58	72.2	.....
Averages					68.4	12.00					72.9	15.00
MISSISSIPPI.												
Grenada	13	70	6	34	.....	.....	30	80	8	42	.....	.....
Fayette	21, 29	81	1	40	61.8	.....	27	88	6	53	67.2	.....
Natchez	29	80	1	37	.....	7.65	27	84	7	50	69.9	11.27
Kingston	3, 17	76	1, 7	43	.....	9.62						.....
Averages					61.8	8.64					68.6	11.27
ARKANSAS.												
Helena	21	85	1	38	60.4	5.36	27	86	2, 6	48	69.6	7.76
TENNESSEE.												
Tusculum College	21, 30	78	1, 5	39	56.3	.....						.....
Lookout Mountain	21	80	6	40	58.3	.....	28	84	8	38	64.0	.....
Clarksville	21	84	6	39	57.6	4.90	4, 12	81	7, 8	40	61.4	4.56
Averages					57.4	4.90					62.7	4.56
KENTUCKY.												
Chilesburg	14, 17, 19	76	6	30	55.5	3.67	28	84	7, 8	40	59.4	4.66
Danville	21	85	5	36	57.1	3.63						.....
Louisville	20	77	6	29	56.7	3.05	28	81	8	32	58.9	6.52
Averages					56.4	3.45					59.2	5.59
OHIO.												
New Lisbon	20, 30	72	6, 12, 28	30	50.2	3.99	29	82	3	36	54.2	4.88
East Fairfield	4	69	6	29	49.7	3.23	28	83	3	29	52.1	4.12
Martin's Ferry	4	76	12	32	52.2	.....	28	85	3	39	54.9	.....
Painesville	14	72	6	26	45.5	.....	28	78	2	30	50.6	6.12
Milnersville	19	79	3	24	51.3	2.20			2	30	.....	.....
Cleveland	14	78	11, 27	29	47.1	3.21						.....
Do	14	77	11	32	50.6	.....	29	78	2	32	53.2	.....
Wooster	14	74	6	33	51.7	.....						.....

Table showing the range of the thermometer, &c., for April and May—Cont'd.

States and places.	APRIL, 1867.						MAY, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
OHIO—Continued.												
		°		°	°	<i>In.</i>		°		°	°	<i>In.</i>
Gallipolis	14	78	6	31	55.9	2.83	28, 29	84	9	40	56.6	4.57
Kelley's Island	14	69	5	32	47.1	3.27	5, 25	66	2	37	52.4	5.08
Norwalk	13	74	6	28	48.4	2.63	4	73	9	32	52.7	2.39
North Fairfield	14	78	6	27	51.5	6.10	4, 29	75	3	33	53.8	7.10
Westerville	14, 19, 30	74	12	31	52.0	1.77	28	83	7	38	56.7	1.62
Kingston	14	78	6	33	52.9	2.21	28	88	7	38	55.9	3.25
Toledo	14	72	6	29	48.6	3.63	30	72	2	36	52.3	5.50
Marion	30	70	6	29	48.9	3.55	28	81	3	37	52.7	3.09
Kenton	19	65	6	34	45.2	4.13	30	72	8	34	47.2	5.31
Urbana University	19, 20	76	1, 6	32	51.2	3.48	28	82	3, 7	38	55.4	2.27
Hillsborough	19	73	6	32	52.3	3.29	28	81	8	38	54.9	3.10
Bethel	19	77	5, 6	30	52.3	1.75	28	80	7, 8	37	56.0	2.75
Cincinnati	19	76	6	34	54.4	2.74	28	80	8	40	58.0	3.80
Do	8	78	6	38	58.4	3.18	28	86	8	42	62.2	4.38
College Hill	20	75	1	30	53.0	3.00	28	84	4	35	55.9	4.15
Farm School	20	73	2	28	51.1	3.25	29	78	7	34	55.2	1.98
Greenwich Station	30	76	5, 6	32	51.3	.....	28, 29	82	3	37	55.4	.....
Bowling Green	14	80	6	28	48.8	3.96	29	78	3	30	54.3	9.50
Averages					50.8	3.21					54.5	4.25
MICHIGAN.												
Monroe City	14	74	11	30	48.4	0.79	30	76	2	38	53.1	2.23
State Ag. College	19	72	11	29	48.2	2.90	30, 31	70	2	30	51.1	3.81
Litchfield	19	75	11	29	47.1	3.95	30	72	3	28	50.6	8.97
Grand Rapids	13	78	5	26	46.7	.....					
Otsego	16	70	5, 11, 22, 27	30	46.2	.....	26, 31	70	2	29	48.2	.....
Northport	13	70	9	22	39.9	.....	25	62	2	26	44.1	.....
Alpena	17	52	5	27	.....	.....				
Holland	13	70	11	30	45.4	2.53	31	72	2	28	49.8	5.38
Ontonagon	13, 14, 28, 29	60	1, 2, 9, 10, 11, 22, 26, 27	28	38.6	.....	31	60	1, 2	30	42.0	.....
Copper Falls .....					.....	.....	31	61	2	20	41.2	.....
Averages					45.1	2.55					47.5	5.10
INDIANA.												
Richmond	19	73	6	32	50.0	3.05						
Aurora	30	74	6	29	52.8	2.49						
Vevay	9	83	6	31	55.7	1.70	30	95	7	35	61.4	4.25
Muncie	19	78	1, 5, 6	33	50.6	2.60	28	81	2	36	54.7	5.08
Spiceland	19	78	2	32	51.3	0.80						
Columbia City	19	76	1, 11	32	44.0	.....	28	80	8	37	52.8	5.00
Indianapolis	19	77	6	30	51.4	2.93	31	79	2, 8	36	54.3	.....
Rensselaer	19	72	6	28	46.6	5.75	28	76	2	29	50.0	15.50
Merom	19, 20	72	2, 6	32	51.6	1.80	28	73	7, 8	36	55.8	5.74
New Harmony	19, 21	77	6	39	56.1	2.03	20	80	7	40	61.2	4.62
Averages					51.0	2.57					55.7	6.70

Table showing the range of the thermometer, &c., for April and May—Cont'd.

States and places.	APRIL, 1867.						MAY, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
ILLINOIS.												
Chicago	3	74	22	30	47.5	.....	23	80	7	32	51.7	.....
Do.....	13	71	2	33	46.4	1.70	28	73	2,6	38	51.4	4.22
Golconda.....	30	94	26	26	59.9	0.70	21	92	8	30	67.5	6.00
Aurora.....	18	67	5	29	45.3	2.39	30	71	2	30	46.6	5.24
Sandwich.....	19	72	5, 6, 11	30	46.6	2.45	30	73	2	29	50.9	7.58
Ottawa.....	19	78	5	33	50.6	1.72	28	80	3	32	52.8	4.64
Winnebago.....	19	70	5	28	45.0	1.43	30	77	2, 6	32	49.4	4.65
Dixon.....	12, 29	72	2, 6	26	48.4	.....	31	79	2, 7	30	51.1	.....
Hennepin.....	18	76	6	28	48.0	.....	31	75	3	29	52.0	.....
Magnolia.....	7	80	6, 11	28	48.5	2.00	30	85	7	28	52.5	10.00
Lacon.....	18	76	2, 5, 6	30	50.8	2.81	.....	.....	.....	.....	.....	.....
Rochelle.....	18, 19	72	1, 2, 6, 11	28	47.3	.....	28, 30	76	2, 7	34	51.0	.....
Wyanet.....	18	71	1	27	47.8	2.00	30, 31	74	7, 8	31	52.0	6.62
Tiskilwa.....	19	74	1	27	48.3	.....	31	75	7	34	52.3	.....
Elmira.....	18	73	5	30	49.5	2.27	31	78	6	35	53.0	6.41
Peoria.....	18	73	2	30	51.1	1.57	31	75	7	35	55.2	4.40
Springfield.....	19	74	6	28	49.4	.....	12	84	6, 7	34	55.0	.....
Loami.....	18, 19	80	2	32	52.4	0.45	4	79	7	34	56.5	5.40
Waterloo.....	19	79	1	33	53.1	.....	20, 31	78	8	36	60.1	.....
Du Bois.....	21	79	6	25	48.8	1.15	30	88	8	22	52.8	5.90
Galesburg.....	18	72	10	28	48.1	1.16	30, 31	74	6	36	50.3	6.38
Manchester.....	21	78	2	30	52.8	0.47	30	76	6	38	56.8	5.45
Mt. Sterling.....	19	81	5	33	53.2	.....	31	80	6	35	58.6	.....
Andalusia.....	18	75	1	26	48.0	.....	31	78	7	33	51.9	.....
Augusta.....	18	74	2	31	52.6	2.00	31	72	6	37	57.5	4.99
Averages.....	.....	.....	.....	.....	49.6	1.64	.....	.....	.....	.....	53.8	5.86
WISCONSIN.												
Manitowoc.....	25	62	5	27	42.2	2.60	23	62	2	30	46.7	2.26
Plymouth.....	14, 16, 17	65	4, 9	28	43.9	1.70	24	69	2	30	49.0	3.10
Milwaukee.....	29	65	5	28	42.9	1.73	24	70	3	28	46.6	4.39
Do.....	12	66	5	31	44.0	1.75	24	70	3	32	47.3	5.53
Geneva.....	.....	.....	.....	.....	.....	.....	31	70	2	30	49.7	.....
Delavan.....	19	69	1	27	44.2	1.09	31	67	2	30	48.2	3.60
Waupaca.....	19	69	5	25	45.3	.....	30	71	2	30	50.4	.....
Do.....	16, 19	68	9, 11	18	40.5	3.70	26	68	2, 3	26	47.7	2.70
Embarrass.....	19	72	8	25	41.2	2.41	27	74	2	23	46.1	1.38
Rocky Run.....	19	67	5	29	41.7	2.78	30	70	2	31	43.3	3.94
Beloit.....	18, 19	68	5	28	46.5	.....	30	74	2	32	49.6	3.84
Baraboo.....	16	74	9	26	45.0	6.25	31	74	12	30	49.7	6.19
New Lisbon.....	19	74	2, 9	25	46.1	.....	11, 31	73	2	32	51.2	.....
Bayfield.....	12, 19	64	9, 27	26	42.0	.....	.....	.....	.....	.....	.....	.....
Appleton.....	13	67	27	27	43.8	2.15	27	72	2	28	48.5	2.20
Averages.....	.....	.....	.....	.....	43.8	2.56	.....	.....	.....	.....	48.2	3.56
MINNESOTA.												
Beaver Bay.....	16	62	2, 5, 10	25	38.2	1.43	29	67	1	25	44.9	1.64
Afton.....	17	67	2	19	42.0	.....	30	76	1	27	47.8	.....
St. Paul.....	17	60	2	17	40.2	2.93	30	76	6	30	49.7	4.45
Minneapolis.....	19	64	2	21	41.4	0.40	30	70	1	28	48.5	3.63

Table showing the range of the thermometer, &c., for April and May—Cont'd.

States and places.	APRIL, 1867.						MAY, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MINNESOTA— Continued.		°		°	°	In.		°		°	°	In.
Sibley.....	25	60	2	7	37.9	1.82						
New Ulm.....	19, 28	64	2	13	44.4	1.73	30	78	1	29	52.0	3.72
Red Wing.....	12	67	8	25	42.7	2.68						
Averages.....					41.0	1.83					48.6	3.36
IOWA.												
Clinton.....	18	68	2	20	46.0	1.75	30	78	6	34	52.4	7.00
Davenport.....	18	70	1, 2	30	47.5	3.91						
Dubuque.....	18	71	5	29	47.6	1.32	30	77	6	36	52.1	3.10
Atalissa.....	18	73	5	29	46.0	2.83	31	78	6	33	51.0	5.33
Monticello.....	16, 18, 19	70	1	30	46.8	1.25	30	78	6	35	52.9	4.67
Fort Madison.....	18	75	2, 6	27	48.6	3.25	31	81	6, 7	33	53.7	5.88
Guttenberg.....	18	76	2	23	43.3		30	80	7	27	48.4	
Ceres.....	18	72	1, 4, 5	30	46.7		30	78	2	28	51.1	
Mount Vernon.....	18	75	2	20	45.2		30	75	6	30	50.3	
Iowa City.....	18, 19	70	1, 2, 6	27	47.1	0.95	30	79	6	31	51.9	10.60
Independence.....	18	76	1	24	44.1	3.10	30	79	2	29	50.8	6.20
Do.....	18	70	1	27	44.5		30	78	6	34	51.0	7.95
Waterloo.....	18	70	1, 2	26	44.5		30	76	5	32	51.0	
Iowa Falls.....	19	72	1	10	37.8	2.14	17	64	2, 6, 7	30	46.6	7.64
Algona.....	19	61	9	16	38.9		30	77	2, 6	30	50.1	
Do.....	28	62	9	16	40.2		30	73	6	21	51.1	
Fontanelle.....	12, 19	68	5	27	44.4	2.50	3	78	6	36	53.6	6.63
Harris Grove.....	12	67	9, 11	23	43.4	1.60	3	80	6	29	52.0	4.50
Fort Dodge.....	12	64	9	22	40.9	1.37	30	75	6	31	51.6	4.07
Decatur.....	28	66	7	12	38.8		30	78	2	30	51.9	
Marble Rock.....							30	77			52.3	
Averages.....					44.1	2.16					51.3	6.13
MISSOURI.												
St. Louis Univer'y.	21	82	2, 6	39	56.3	0.69	4	80	7	46	60.9	5.95
Allenton.....	21	91	6	28	55.0	0.89	3	87	7, 8	36	59.5	7.86
Union.....	21	86	1	34	56.2	1.14	4	83	7	44	61.5	7.05
Canton.....	18	73	2, 11	31	49.3	2.50	31	73	2, 7	36	57.1	3.20
Harrisonville.....	20	80	5, 6, 10, 11	34	52.1	4.91	3, 8, 10, 14	78	13	45	58.6	10.64
Oregon.....	12	72	1	27	51.2	2.49	3, 8	82	2	38	58.3	5.84
Averages.....					53.4	2.10					59.3	6.76
KANSAS.												
Leavenworth.....	18	79	6	25	51.1	2.77	8	90	6, 7	30	58.0	6.25
Olatha.....	20	78	5, 10, 11	32	50.1		3	80	5	37	57.9	8.40
Atchison.....	21	75	11	29	49.1	5.40	10	87	6	34	57.8	4.75
State Agric. College	13, 21	75	5, 10	31	50.2	2.44	8	93	2	41	59.2	3.59
Le Roy.....	20	87	6	28	55.3	1.52	8, 9, 30	90	5	46	64.6	12.01
Council Grove.....	21	77	11	28	50.3	2.70	8	91	6	36	60.5	7.15
Lawrence.....	20	72	5	30	48.9	4.81	8	78	6	37	55.5	9.38
Holton.....							8	89	2	42	59.0	
Averages.....					50.7	3.27					59.1	7.36

Table showing the range of the thermometer, &c., for April and May—Cont'd.

States and places.	APRIL, 1867.						MAY, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
NEBRASKA.		°		°	°	In.		°		°	°	In.
Elkhorn	28	70	5	26	44.0	.....	3	84	2	34	54.9	.....
De Soto	28	69	9	21	44.5	.....	3	83	1	30	55.9	8.20
Bellevue	20	79	4, 5	30	46.6	1.78	.....	.....	.....	.....	.....	.....
Glendale	12	73	9	27	45.7	2.80	3	85	5, 6	35	55.3	8.25
Averages					45.2	2.29					55.4	8.23
UTAH TERRITORY.												
Wanship	20	64	4	16	37.2	.....					
CALIFORNIA.												
Monterey	26	85	3	38	57.0	3.68	.....				
MONTANA TER'Y.												
Camp Cooke	11, 20, 27	71	4	20	44.8	1.41	.....				
OREGON.												
Corvallis	24	68	1	38	.....	.....				
Albany	25, 30	75	17	34	53.2	5.20	.....				

NOTES OF THE WEATHER APRIL, 1867.

St. Anne, Canada East.—April 1.—Ground frozen this year only to the depth of one foot seven to one foot nine inches; the greatest depth to which it freezes is from two feet six to two feet eight inches.

Gardiner, Me.—April 30.—Mean temperature of the month nearly three quarters of a degree below the average for thirty-one years; the range less than any on record; amount of rain one inch and four-tenths above the average.

Steuben, Me.—April 21.—Thunder and lightning at 5 p. m. continuing till in the night. 30th.—No ploughing done yet; last year potatoes were planted the 10th of April.

Lee, Me.—April 11.—Have had ninety-five days sleighing; it continued good till this day. 30th.—Frost out of ground, except in protected places; farming will be two weeks later than last year.

Cornish, Me.—Amount of snow from November to April inclusive, 113½ inches. Temperature of the month 1°.26 above the average for thirty-five years.

Antrim, N. H.—April 22.—Two thunder storms to-day in connection with the rain. 30th.—The grass is not more forward to-day than it was on the 15th of April last year.

Stratford, N. H.—April 6.—First appearance of robins. 21st.—First garden violet in bloom.

Middlebury, Vt.—April 30.—The season is late; farmers have ploughed but little; snow is in sight on the Green mountains east, and on the Adirondacks west.

Randolph, Vt.—April 25.—Farmers begin to sow grain. 27th.—Bees bring in pollen.

Lunenburg, Vt.—The month has been cold and backward, with but little snow.

Kingston, Mass.—April 21.—First thunder shower of the season at 1 a. m. 22d.—Heavy thunder shower at 7 p. m.

New Bedford, Mass.—April 28.—Ground frozen a little this morning; ice formed; thermometer 26° early in the morning.

Williamstown, Mass.—April 20.—A very violent thunder storm in the evening. 28th.—Hard frost.

Mendon, Mass.—April 22.—Heavy thunder shower at 6 p. m. 28th.—Ground frozen in the morning; ice an eighth of an inch thick in vessels out of doors. 30th.—Beginning to plough.

Newport, R. I.—April 21.—Thunder shower at 2.30 a. m. 22d.—Thunder and lightning from 6.30 to 8.30 p. m. with rain.

Groton, Conn.—April 22.—Heavy thunder storm passed over this evening about 6 o'clock. 28th.—Ground frozen about an inch in some places this morning.

Columbia, Conn.—April 22.—Thunder shower from 5 to 7 p. m. with wind southwest, and accompanied by zigzag lightning and very heavy thunder.

New York, N. Y.—April 22.—Thunder storm from 3.50 p. m. to 4.25 p. m. from southwest to northeast; much heavy thunder and vivid lightning; some scattering snow flakes for five minutes.

Little Genesee, N. Y.—April 23.—Ground white with snow. 28th.—Thermometer 18° at sunrise.

Rochester, N. Y.—April 28.—Last night was the coldest in the month, freezing the ground to the depth of an inch, and forming ice half an inch in thickness. Temperature at 11 p. m. 28°.

Buffalo, N. Y.—April 30.—Twelve miles of ice yet in this end of Lake Erie, though a few propellers succeed in getting through.

Moriches, N. Y.—April 22.—At 5 p. m. thunder heard in the northwest. At 6¼ p. m. the shower came up. 28th.—Frost and ice this morning.

Nichols, N. Y.—April 3.—First ploughing done. 22d.—Thunder showers at intervals all day; much hard thunder. 24.—Snow began at 5 a. m., two or three inches fell, but it melted nearly as fast as it fell.

Depauville, N. Y.—April 10.—The ice has passed out of the river St. Lawrence, and the first boat of the season went up and arrived at Cape Vincent. 21st.—About sunset yesterday, during the thunder storm, the lightning struck a house about four miles in a northwestern direction from here.

Mount Holly, N. J.—April 22.—Dark clouds came up from southwest about 3 p. m. accompanied by heavy thunder and vivid lightning.

Greenwich, N. J.—April was a pleasant month, free from severe storms. On the 18th ice formed an eighth of an inch thick, and on the 28th there was a heavy frost.

Haddonfield, N. J.—April 22.—Hail at 3.15 p. m. for about five minutes during a shower from the southwest. 28th.—Heavy white frost this morning and ice nearly as thick as window glass.

Newark, N. J.—The average temperature of the first week of April was more than four degrees above that of the last week. The minimum temperature of every April of the last twenty-three years, except one, (1865) was lower. Thunder and lightning accompanied the showers of the 20th and 22d, the latter occasion being simultaneous with a violent tornado in Sussex county.

Lewisburg, Pa.—April 22.—Violent thunder storm a few minutes after 2 p. m., wind west, prostrating many fences.

Philadelphia, Pa.—April 22.—Thunder and lightning, with heavy showers from 3 to 5 p. m. 28th.—Ice formed in the northern part of the city one-eighth of an inch thick.

Fleming, Pa.—The snow disappeared about the middle of the month, the ground was covered for four months in succession, which is a very rare occurrence here.

New Castle, Pa.—April 24.—Snow commenced falling at 3 o'clock a. m., and continued till about 10 a. m. The ground was covered, but the greater part of the snow melted as it fell.

Reading, Pa.—April 20.—Heavy shower, with vivid lightning and loud, rolling thunder between 9 and 10 p. m.

Emmitsburg, Md.—April 22.—From 5½ to 6 a. m. heavy thunder storm; at 2 p. m. heavy rain, accompanied with small hail. 24th.—Snowing from 6 to 11 a. m.; two and a half inches deep. 28th.—Ice a quarter of an inch thick.

St. Inigoes, Md.—Cherries in bloom on the 12th of April, peaches on the 14th, and apples on the 18th, catawba and Isabella grape-vines in leaf on the 22d.

Woodlawn, Md.—April 3.—The snow disappeared to-day, having been on the ground since the middle of December. 22d.—A hail storm from 3.12 to 3.25 p. m. from northwest; 28th, general hoar frost and some ice; ploughed ground frozen.

Mount Solon, Va.—April 21.—Thunder shower, commencing at 12 p. m., a few vivid flashes and sharp peals. 28th.—Very heavy frost, stiffening the young clover leaves and nipping the extremities of young foliage.

Cape Charles Light House, Va.—April 22.—Faint lightning in the western sky at 8 p. m. 24th.—Thunder at 7 a. m.

Attaway Hill, N. C.—April 2.—Pear trees in full bloom. 24th.—Heavy thunder cloud from the southeast during the night. At the distance of about a mile the lightning struck the lowest of two pines, about nine feet apart.

Statesville, N. C.—April 22.—Lightning and thunder, southwest, south, and southeast. Heavy shower of rain and hail.

Wilkinsville, S. C.—April 22.—Thunder west and northwest at 5 p. m. Rain from 8¾ p. m. to 11 p. m.; trees and fences prostrated by the wind.

Opelika, Ala.—April 28.—Thunder, with violent and general rain from 5 to 7 p. m. 30th.—Thunder and violent general rain from 5 to 10 p. m. A tree was struck by lightning and some trees were blown down.

Prairie Bluff, Ala.—Frost on the 2d, 6th, and 7th.

Vidalia Plantation, La.—There were four thunder storms in April, generally severe. The storm on the 30th was exceedingly severe; the wind blew with great violence, prostrating fences, trees, and some buildings.

Fayette, Miss.—Frost on the 1st and 4th of April; the last of the season. 28th.—First early peas, a month later than usual. The spring is very backward.

Natchez, Miss.—April 30.—1 50 p. m. a violent storm of wind and rain from the southwest, accompanied with terrific lightning and very heavy thunder. 9 p. m. clear, with a fresh northwest breeze.

Kingston, Miss.—April 30.—At 2 p. m. occurred a violent squall, with rain, thunder, and lightning. It was much more violent at Natchez than here. The road from Kingston to Natchez was rendered impassable in many places. The squall came from the westward and prostrated the trees across the road at right angles to it and parallel to one another. Most of these trees were about eight inches in diameter and smaller. The amount of rain during the month (9.62 inches) was greater than the observer ever before registered.

Waco, Texas.—Light frost on the mornings of the 1st and 10th.

Clarksville, Tenn.—April 30.—At 1 p. m. a heavy, pouring rain commenced which for a few moments was mixed with hail as large as boys' marbles. There was considerable thunder during the squall. The rain ceased about 3 p. m.

Lookout Mountain, Tenn.—April 15.—Severe thunder storm, moving from southeast to northwest, late in the p. m.; pine tree struck by lightning. 22d.—Thunder showers in p. m. 30th.—Thunder in the night.

Chilesburg, Ky.—April 26.—White frost this morning, more general than on the 23d and 25th. Fruit trees generally in bloom and but very little injured by the frost. 30th.—Thunder storm at 4 p. m.

Ripley, Ohio.—April 22.—From 12 to 3 a. m. violent thunder and sharp lightning, commencing south, moving to southeast, thence east to northeast, accompanied by high wind and some hail. 25th.—Heavy frost. 27th.—First peach blossoms.

Urbana, Ohio.—April 25.—Thin ice; heavy white frost.

Painesville, Ohio.—April 22.—Snowed a trifle, melted as fast as it fell 24th.—Snowed a trifle again to-day.

Kelley's Island, Ohio.—April 1.—At 12 m. the steamer *Star* came in from Sandusky, getting to the dock through the ice with some difficulty; left again for Sandusky at 2 p. m., not being able to get to Put-in-bay on account of ice. Schooner *Post*, which came from Black river March 3d, succeeded this afternoon in getting out of the ice, and left for Cleveland, or any port this side which may be accessible. 3d.—Lights in light-houses for the first time this season. 9th.—Crocus in blossom.

Holland, Mich.—April 22.—Rain and snow the past night; snowing during the day and cold wind. 23d.—Hard frost this morning. 28th.—Ice half an inch thick.

Central Mine, Mich.—Snow from three and a half to four feet deep from early in December till early in April; melted gradually until April 14th, when at the lake level but little remained, and on the ranges in the woods it was from a foot to a foot and a half.

Lansing, Mich.—April 21.—Rain began at 6 p. m., during the night it changed to a fierce northeast snow storm, covering the ground to the depth of five inches.

Fevay, Ind.—April 15.—Peaches in blossom. 30th.—Thunder storm from the northwest 3.45 to 6 p. m.

Waterloo, Ill.—In the night of the 24th and 25th of April ice formed in the lower part of the county, especially throughout the whole American bottom, while on the hills there was hardly any frost, except along the creeks. The same occurred during the night of the 27th and 28th.

St. Louis, Mo.—April 21.—Thunder and lightning in the east at 7 $\frac{1}{4}$ p. m.

Waupaca, Wis.—April 27.—Ice a quarter of an inch thick this morning.

Delavan, Wis.—April 16.—Grass pretty generally started. 30th—The buds have started on very few trees yet.

Milwaukee, Wis.—April 4.—Ice left the Milwaukee river. 23d.—First steamer arrived from lower lakes.

Minneapolis, Minn.—Ice broke up in the Mississippi river at this point April 16th. Ground frozen very hard and ice formed a quarter of an inch thick on the night of the 26th.

St. Paul, Minn.—April 22, 23.—Heavy flood in the Minnesota and Mississippi; water higher than since 1859.

Algona, Iowa.—April 30.—Snow all gone, except in deep ravines where it drifted to a great depth.

Iowa City, Iowa.—April 24.—Hard frost, ice half an inch thick. Season very backward.

Lawrence, Kansas.—April 20.—Rose bushes, cherry trees and cottonwood trees coming into leaf. First flower of the season found on the prairie.

Manhattan, Kansas.—April 3.—Frost left the ground; first ploughing

Olathe, Kansas.—April 14.—Heavy thunder storm at 5 a. m.

Richland, Neb.—April 21.—Grass generally starting on the prairies.

Glendale, Neb.—April 24.—Thermometer at 5 a. m. 22°; ground frozen hard.

Aspinwall, Panama.—The mean temperature of the past April at 7 a. m. was 79°·1, at 2 p. m. 79°·2; at 9 p. m. 79°·0; being only one-tenth of a degree higher at 2 p. m. than at 7 a. m. and two-tenths higher than at 9 p. m.

EARTHQUAKE.

A number of the registers from Nebraska, Kansas, Iowa, and Missouri mention the shock of an earthquake in the afternoon of April 24th.

NOTES OF THE WEATHER.—MAY, 1867.

Gardiner, Me.—Mean temperature of the month 2°·92 below the average of May for thirty-one years. Amount of rain 1 $\frac{2}{3}$ inch above the average of twenty-nine years.

Steuben, Me.—The past month was the wettest May except one on record at this station.

Lisbon, Me.—May 31.—There was so much wet weather during the month that farmers have been able to do but little sowing and planting.

Cornish Me.—Temperature of the month about one degree above the average of the last thirty-five years.

Stratford, N. H.—May 19.—Ice thick as window glass this morning.

Lunenburg, Vt.—May was very wet, but all crops, though backward, promise well.

Craftsbury, Vt.—Rain fell on every day during the month except four.

Barnet, Vt.—May 31.—The season is more backward than for several years. The Connecticut river was higher this month than before since 1850.

Kingston, Mass.—May 14.—Thunder shower last night.

Richmond, Mass.—May 31.—The month was cool and very wet. A snow-drift formed in December, remained in sight until the 26th.

Lunenburg, Mass.—The past May was the coldest since 1858.

Newport, R. I.—Thunder storm from 11 p. m. of the 13th to 3 a. m. of the 14th.

Columbia, Conn.—Rain from 9 p. m. of the 13 to 3 a. m. of the 14.

Pomfret, Conn.—The temperature of the month was $1^{\circ}.6$ below the average of fifteen years. In 1853, 1856, 1858, 1861, and 1865 May was colder.

Troy, N. Y.—The mean temperature of the month was lower than that of any May during the last eleven years, the period covered by this register.

New York, N. Y.—May 13.—Thunder shower from 10.15 p. m. to 12.30 p. m. The lightning struck a gate post and two porters' lodges, one on each side of the gate and about fifty feet from it, shattering them and setting fire to the post.

Buffalo, N. Y.—The temperature of May was $8\frac{1}{3}^{\circ}$ lower than the mean of the month for the nine years during which these observations have been taken.

Rochester, N. Y.—The past May was the coldest recorded at this station, the record extending back to 1837. More rain also fell than in any May, except in 1864.

Morestown, N. J.—On the night of the 13th–14th a hurricane passed through Everham township, five miles from this place. A barn and several orchards were destroyed; path narrow, direction very nearly northeast.

Trenton, N. J.—May 13.—Hail and thunder storm from south at 9 p. m., continued about an hour; a brick house struck by lightning. 14th.—Hail and thunder storm from the southwest at 1.30 p. m., continued about half an hour; a tree struck by lightning.

Mount Holly, N. J.—May 13.—At 11 p. m. a hurricane passed over the centre of the town, from west to east, breaking down a number of large trees, and followed by some hail and very heavy rain.

Newark, N. J.—The mean temperature of the month was $3^{\circ}.47$ below the average of the preceding twenty-four Mays, those of 1858 and 1861 only having mean temperatures lower. The quantity of rain was nearly two and a quarter inches in excess of the average of May for the same period, being exceeded only in 1846 and 1850.

Reading, Pa.—May 13.—Thunder and lightning in the southwest; vivid and violent between 9 and 10 p. m.

Fallsington, Pa.—More rain fell during this month than in any May since the observer has kept a record—nine years.

Philadelphia, Pa.—May 8.—At 10 a. m. the barometer stood at 28.778, reduced to the freezing point, the lowest observed in the last sixteen years. 13th.—From 10 to 10 $\frac{1}{2}$ p. m. very heavy rain mingled with hail and accompanied by thunder and lightning. 31st.—The mean temperature for the month was about $4\frac{1}{2}^{\circ}$ below the average, and lower than any May in the last sixteen years. The nearest approach to it was in 1858 and 1861. The rain was more than two inches above the average amount, and was surpassed during the last sixteen years only in 1854, 1864, and 1865.

Canonsburg, Pa.—May 13.—Shower at 4 $\frac{1}{2}$ p. m.

Emmitsburg, Md.—May 13.—At 10 a. m. thunder gust; in the afternoon two showers. At 7 p. m. heavy rain, heavy thunder with vivid lightning continuing until 10 p. m.

Raleigh, N. C.—May 13.—Four thunder showers with hail about 4 p. m., one hail stone as large as a robin's egg; many larger than peas.

Oxford, N. C.—The month too wet for corn and cotton.

Grenada, Miss.—Slight frost on the 7th and 8th of May.

Vidalia Plantation, La.—There were nine thunder storms in May, several of them very severe; four occurred in the morning, and in these cases the thunder continued the most of the day. The month was excessively wet. On the 25th, at 3 p. m., a tornado came suddenly with great fury bearing all before it. It extended from Tensas river to Lake Pontchartrain. The wind was from northwest to southeast.

Chilesburg, Ky.—May 8.—Frost, doing considerable damage to fruit. 13th. At 1 p. m. a thunder storm passed over from west to east; very loud thunder south at 1 p. m. About noon there was a very violent storm at Lexington (fourteen miles west), blowing down trees and breaking windows. Almost constant lightning to-night south and southeast, and very strong wind from west.

Urbana, Ohio.—The season is about thirteen days later than the average. The mean temperature is 6.33° below that of May for the past fifteen years. The amount of rain is less than the average for May, but has been distributed through a greater number of days than is usual for the month.

Kingston, Ohio.—May 13.—The rain storm this p. m. was accompanied with lightning and some wind.

Kelley's Island, Ohio.—May 13.—Thunder shower in the latter part of the night.

College Hill, Ohio.—May 8.—Frost this morning; fruit not injured. 13th.—Two thunder showers, the first from 11 a. m. to 11.30 a. m., the second from 3 to 3.45 p. m.

Kenton, Ohio.—May 13.—Thunder storm with hail at 4 p. m. Two or three trees struck by the lightning.

Holland, Mich.—Frost on ten nights during the month, the last on the night of the 30th. On the morning of the 8th ice a quarter of an inch thick.

New Harmony, Indiana.—May 8.—Frost last night, thermometer 32° in the night. Tomato and potato vines destroyed; also the young shoots of the grape-vines.

Merom, Indiana.—May 8.—Hard frost last night; ice a tenth of an inch thick.

Chicago, Ill.—Ground white with frost on the mornings of the 1st, 5th, and 17th.

Winnebago, Ill.—May 31.—The season is cold and backward; corn which was planted at the beginning of the month is just making its appearance.

Manchester, Ill.—May 12.—Distant thunder from 8 a. m. with light showers; about 5 p. m. heavy thunder from southwest, at the same time distant thunder north.

Aurora, Ill.—May has been remarkably cold, and the season is about ten days later than usual.

Attenton, Mo.—May 7, 8.—Heavy white frost; thermometer 29° at 5 a. m. on the 7th. Strawberry and currant blossoms and young shoots of grape vines injured to a considerable extent.

Harrisonville, Mo.—May 7.—A very light frost this morning.

Rocky Run, Wis.—The mean temperature of the month was about eight degrees lower than the average of May for the last eight years. The season is at least two weeks more backward than usual.

Embarrass, Wis.—May 31.—The month has been very cold and rainy; but rye, wheat, oats, &c. never looked better than they do now.

Milwaukee, Wis.—May has been cold and wet. Vegetation ten days later than usual.

Independence, Iowa.—May 29 —Plum trees in blossom; last year they were in full bloom on the 11th. Very nearly all vegetation is two or three weeks later than usual.

Iowa Falls, Iowa.—Frost on thirteen mornings in May, the most ever seen by this observer.

Fort Madison, Iowa.—This was the coldest May since the observer commenced a record, in 1848.

Dubuque, Iowa.—May 24.—At 4.30 p. m. a violent hail storm passed a few miles to the north of this place, from west to east, covering the ground in some places to the depth of four inches with hail stones, some of which were an inch and a half in diameter.

Lawrence, Kansas.—May 6.—Heavy frost on the bottom lands this morning. 13th.—A violent gale suddenly came up from the northwest about 2 a. m., and lasted till day-light.

Atchison, Kansas.—May 6.—White frost covered the ground this morning; vegetation injured only on the low lands. 23d.—White frost on the low lands this morning.

De Soto, Nebraska.—May 31.—The month has been too wet for corn; some farmers have been obliged to replant.

Glendale, Nebraska.—This has been the coldest and wettest May for ten years.



MONTHLY REPORT

OF

THE DEPARTMENT OF AGRICULTURE,

FOR

JULY, 1867.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1867.

MONTHLY REPORT.

WASHINGTON, D. C., July 30, 1867.

SIR: I submit herewith for publication a report of returns to the Statistical Division, showing the condition of farm crops of the several States on the first of July, with various statistical data from foreign and domestic sources, as follows: Wool prices in New York and Boston; imports of wool at New York; exports of breadstuffs; revenues of Great Britain; the cotton caterpillar; culture of flowers and manufacture of perfumery; Angora and Cashmere goats; temperature of the soil; culture of sugar beets; farm products and domestic animals in Europe; mineral phosphate of lime; statistics of Bavaria; crops of Europe; and meteorological tables.

J. R. DODGE,
Statistician.

Hon. J. W. STOKES,
Acting Commissioner of Agriculture.

CONDITION OF FARM CROPS IN JULY.

Never has the department been able to report so favorable a prospect for uniformly good crops since the establishment of the statistical division. While exaggerated statements have been made in influential papers, especially of the so-called failure of the wheat crop of last year, and the importation of wheat, in the face of the fact that twelve millions of dollars' worth of breadstuffs were exported in the first four months of 1867, immense numbers of immigrants were fed, a much larger amount of wheat used for seed than usual, with a surplus still remaining over sufficient to break numerous speculators and several banks, it is gratifying to know that we shall have a surplus to more than make good the deficiency—not the “failure,” for there never was a failure of the wheat crop in this country—of the last three crops of wheat. Four States—West Virginia, Kentucky, Ohio, and Indiana—made but about half a crop. No other States were in that category, and Iowa, Missouri, and Kansas made a good crop. Instead of a deduction of fifty per cent., or ninety millions of bushels, which would at least have threatened a famine, scarcely more than a third of that deduction should be made. For three years past the product has been but about five bushels to each inhabitant. The crop of 1859, if the census returns are correct, was but five and a half bushels to each person. The promise for the present year is about six bushels.

Wheat.—The statistical returns for July show an improvement in condition of winter wheat over last year, in every State but Texas, Nebraska, and Minnesota, the diminution in the latter case being but 4 per cent. The highest improvement is in Ohio, 160 per cent.; Georgia, 96; West Virginia, 78; Tennessee, 72; Indiana, 54; Kentucky, 53; Michigan, 35; Vermont, 25; New Jersey, 25; New York, 17, &c. Spring wheat was a far less variable product last year, and there is consequently less variation in the figures used in the present comparison. All the States, however, except Vermont, New York, and Pennsylvania, show an increase on last year.

Corn.—The acreage in corn is unusually large, every State showing a material increase, except Maine, New Hampshire, New York, and South Carolina. In the southern States the increase ranges upwards to 102 per cent., as in Arkansas. The condition, as reported, is a little deficient in the northern and western States, on account of the lateness of the spring. With the continuance of the present weather there is ample opportunity to make up the entire deficiency, in which case the yield will be unprecedented.

Rye.—A glance at the tables will show the fine condition of this grain, and the remarkable uniformity of the improvement.

Barley.—The condition of this grain promises an increase of from ten to twenty per cent., in Massachusetts, Rhode Island, Connecticut, New Jersey, West Virginia, Kentucky, and Indiana, and 42 per cent. in Ohio. Most of the other States show some increase.

Oats.—The condition of oats points to a full average in the West, particularly in Wisconsin and Minnesota, also in Massachusetts, Rhode Island, Connecticut, New Jersey, and the South; slightly less than last year in Maine, Vermont, New York, and Kentucky.

Pastures and hay.—These crops are almost universally large, from an average up to 15, 20, and even 30 per cent. above.

Potatoes.—The report of acreage of potatoes indicates a larger area planted in every State, except Maine and New York. The condition is also above an average with a few exceptions, among which are New York, Ohio, and Indiana.

Fruits.—Peaches are so exceptional in their successful seasons and localities that estimates for States can scarcely be made with accuracy. New Jersey, as indicated by very general returns, shows 63 per cent. improvement over last year; Maryland 25; Delaware 150; Virginia 35; Michigan 127. In other States estimates are given upon whatever data was received, generally showing a considerable increase over last year. Apples are promising in portions of New England, the Alleghany region, and the West. Grapes are more uniform in averages of States, generally appearing unusually well. It has been a more successful year for strawberries than usual, as a study of the tables will show.

Sorghum.—The sorghum crop is generally returned in comparatively poor condition, with lower figures than any other crop. Ohio and Indiana indicate a deficiency in acreage of 14 per cent., and in condition of 10 per cent. All the principal sorghum-growing States show a similar state of facts.

Tobacco is much like sorghum, manifesting a decline in acreage and generally in condition.

Cotton.—There is an increase of acreage in North Carolina, Georgia, Alabama, and Arkansas. Texas, 10.1; Mississippi, 9.4; Louisiana, 8.1. The average is about the same as last year. There is a slight difference, as reported, in favor of the present crop. The department estimates made last October, of 1,835,000 bales, proved to be singularly accurate for approximate calculations of so early a date, though they were severely criticised by northern and southern speculators, some of whom publicly acknowledged their error after the crop was sold. It is too early to predict the successful avoidance of all the numerous enemies of cotton. Had the last crop been a good one it would have yielded 2,500,000 bales; a very good one would have realized 3,000,000. Such results are possible this year.

Wool.—An examination of this item of the tables will show that losses of sheep, unthrifty condition, and a wet spring have had an influence both upon numbers and weight of fleece, and will lead to the conclusion that our wool clip of the present year is not materially larger than that of last year.

Table showing the condition of the crops on the first day of July, 1867:

STATES.	CORN.		WHEAT.		RYE.		BARLEY.		OATS.	PAS- TURES.
	Total acreage compared with last year.	Average condition July 1, compared with last year.	Average condition of winter wheat July 1, compared with last year.	Average condition of spring wheat July 1, compared with last year.	Average condition of winter rye July 1, compared with last year.	Average condition of spring rye July 1, compared with last year.	Average condition of winter barley July 1, compared with last year.	Average condition of spring barley July 1, compared with last year.	Average condition July 1, compared with last year.	Average condition July 1, compared with last year.
Maine	8.9	9.2	10.3	9.6	10	9.4	11	9.3	9.6	12.4
New Hampshire	9.3	10	10	10.5	10	10	10	10.7	10	12.3
Vermont	9.1	9.4	12.5	9	10.6	10	10	9	9.2	11.6
Massachusetts	10.3	9.8	10.8	11.5	12.4	11	12	11.2	11	13.3
Rhode Island	10	10	-----	-----	10	10	11	11	10.5	12.5
Connecticut	10.2	10	12.3	11.6	12	12.5	11	10.3	11.5	14.2
New York	9	9.1	11.7	9.4	10.8	9.2	10.1	8.7	9.1	11.4
New Jersey	10	9	12.5	10	11.3	10.3	10.2	10	10.4	12.2
Pennsylvania	10.2	9	14	9.9	12.2	9.5	12	9.4	10	12
Delaware	10	9	13	10	11	-----	-----	12	10	13
Maryland	10	8	13.3	-----	11.3	10	10	10	10.6	11.3
Virginia	11	9.3	11	13.7	11.7	11	10.6	11	10.3	12.8
North Carolina	10.3	9	13	13.1	11	10.2	11.5	-----	11.3	11.3
South Carolina	9.7	11	14	13.5	11	11.7	12	-----	13	10
Georgia	11.2	14	19.6	19	12	13.7	11.2	11.3	15	14.3
Florida	11	11	-----	-----	8.5	10	-----	-----	8	10
Alabama	13.3	17	17.6	18.2	11.2	10.5	11.5	10	12	11.1
Mississippi	13	14	11.8	10.4	10	9	10	10	11	10.7
Louisiana	13	11.5	10.7	10	11	10	-----	-----	11.7	11.5
Texas	11.1	12	6.5	6.3	9	8.8	9.2	9.2	9	10.7
Arkansas	20.2	10.5	14.2	9.5	12	-----	10	-----	14.6	10.3
Tennessee	12	10.4	17.2	17	10.5	10.5	10.2	10	9.3	11.3
West Virginia	10.8	8.5	17.8	12.3	13.2	11.2	12.5	11	10.6	11.5
Kentucky	10.5	10	15.3	10.4	11	10	11	9.1	9	10.1
Missouri	11.9	10.1	13.6	12.9	12.1	10.4	10.9	10.6	11.2	12
Illinois	10	8.4	10.3	11	10.2	10	10.2	10.9	10.5	11
Indiana	10	9	15.4	11	11	10.1	11.2	10	9.9	10.4
Ohio	10.2	9	26	14	16.2	10.7	14.2	11.2	10.1	11.5
Michigan	10.1	9.5	13.5	10.6	11	10.1	10	10.2	10.2	11.1
Wisconsin	10.1	9.2	11.3	12	10.2	10.3	10.2	10.7	11.2	12
Minnesota	10.8	9.1	9.6	12.4	9.9	10.2	10	11	11.4	12
Iowa	10.4	8.9	10	10.3	10.4	10.5	10.2	10.1	10.5	11
Kansas	12	9.1	10	10.5	9.9	9.8	9.8	10.6	11.8	11.7
Nebraska	12.4	9.6	5.6	9.8	8.1	10.3	7.3	9	10	12

Condition of the crops, &c.—Continued.

STATES.	CLO- VER.	TIMO- THY.	POTATOES.		BEANS.		SORGHUM.		APPLES.	PEACH'S
	Average condition July 1, com- pared with last year.	Average condition July 1, com- pared with last year.	Total acreage compared with last year.	Average condition July 1, com- pared with last year.	Total acreage compared with last year.	Average condition July 1, com- pared with last year.	Total acreage compared with last year.	Average condition July 1, com- pared with last year.	Average condition compared with last year.	Average condition compared with last year.
Maine.....	14.7	12.5	9.9	9.3	10	10.2	10	10	9.6	12
New Hampshire....	12.3	12	10.6	10	10.5	10	-----	-----	9.6	11.3
Vermont.....	10.4	10.5	10	9.5	10	9.5	-----	-----	12.4	-----
Massachusetts.....	13.5	11.7	11	11	10	10.3	10.3	10	10.3	15.3
Rhode Island	11.5	11.5	11	10.5	10	10	-----	-----	11	12
Connecticut	12.2	12.2	10.5	10.2	10	9.6	9.6	9.3	10.6	13.6
New York.....	11.4	11	8.6	9	9.4	9.7	9.4	9	9.8	9.5
New Jersey.....	12	12	10.3	10.7	10	10	7.4	8.7	9	16.3
Pennsylvania	12.3	12.2	10.7	9.8	10	9.8	9	9.2	9.2	11.2
Delaware.....	12.5	12.5	10.5	11	10	10	9	8.5	10.5	25
Maryland.....	12.4	11	10.5	10	10	9.5	9.6	9	9	12.5
Virginia.....	11.8	12	10.4	10.3	10	9.5	6.5	8.6	15.2	19.3
North Carolina.....	12	10.1	10.5	10	10.2	10.2	7.7	8.8	10.3	13.5
South Carolina.....	10	-----	10	10	10.6	10.3	6.6	10.4	6.4	12.5
Georgia.....	14	12	12.3	12.7	13.6	13.5	8	10.8	7.5	10
Florida.....	-----	-----	11.5	11.5	5	10	3	5	-----	9.5
Alabama.....	11	10.3	11.1	11.4	10.2	10.5	7.7	10.1	5.2	6
Mississippi.....	11	11	10.7	11	10.1	10.2	6.7	8	5.6	1
Louisiana.....	-----	-----	10.8	9.3	-----	-----	16	10	5.3	3.3
Texas.....	10	10	11.6	10.5	10.1	10.7	8.5	9.7	7.8	4.2
Arkansas.....	9.6	9.6	16	10	13	10.7	13	11.6	6.8	5
Tennessee.....	11	10.7	10.7	9.8	10.3	10.2	9	8.9	5	6
West Virginia.....	11.4	11.2	11.9	10.8	10.1	10.2	10.2	9.5	16.2	10.8
Kentucky.....	10.3	10.3	10.7	10	10.1	10.1	9.3	9.1	14.8	14.8
Missouri.....	11.5	12.6	11.9	11.4	10.3	10.2	9.9	9.8	11.6	17.6
Illinois.....	11	11	10.1	9.2	10.1	9.5	8.2	9.3	10.5	16.6
Indiana.....	11	11.5	10.1	9.5	9.8	9.8	8.6	9	11.3	20.2
Ohio.....	12.1	11.7	10.5	9.7	9.7	9.7	8.6	9	10.5	26.2
Michigan.....	12	10.2	11	10.2	10.1	10.2	8.7	9.2	11	22.7
Wisconsin.....	11.1	11.2	10.3	9.5	9.9	9.9	8	9.5	15.2	12
Minnesota.....	11.1	12.8	11.7	10.6	11.3	10.1	9.2	8.6	10.7	10
Iowa.....	11.2	11	10.5	10.7	10.3	9.7	8.9	8.6	11.2	19.6
Kansas.....	10.8	10.9	12.2	11.6	11	9.6	10.8	9.5	12	13.1
Nebraska.....	11	9.7	13	10.8	12.6	10.1	11.7	9.7	12.1	17.2

Condition of the crops, &c.—Continued.

STATES.	GRAPES.	STRAWBERRIES.	TOBACCO.		COTTON.		SUGAR CANE. (not sorghum.)		WOOL.
	Average condition July 1, compared with last year.	Amount of crop compared with last year.	Total acreage compared with last year.	Average condition July 1, compared with last year.	Total acreage compared with last year.	Average condition July 1, compared with last year.	Total acreage compared with last year.	Average condition July 1, compared with last year.	Total quantity of wool sheared this spring, compared with last year.
Maine.....	9.3	12	10	10	.....	.....	.....	.....	9
New Hampshire.....	10	9.6	.....	.....	.....	.....	.....	.....	9.6
Vermont.....	11	11.4	9.5	8.5	.....	.....	.....	.....	9.9
Massachusetts.....	11	14.5	7.6	11	.....	.....	.....	.....	10.5
Rhode Island.....	10	12	.....	.....	.....	.....	.....	.....	9.5
Connecticut.....	10.7	16	8.5	11	.....	.....	.....	.....	9.6
New York.....	9.8	11.2	9	9	.....	.....	.....	.....	10.5
New Jersey.....	10	12.4	10	10	.....	.....	.....	.....	9.8
Pennsylvania.....	10.1	11.2	8.8	9.6	.....	.....	.....	.....	10
Delaware.....	10	19.5	.....	.....	.....	.....	.....	.....	11
Maryland.....	11	12	7.5	10	.....	.....	.....	.....	10
Virginia.....	11	11	11.5	9.5	9.1	7	.....	.....	10
North Carolina.....	10	13	10.3	9.4	14.5	8.6	.....	.....	9.8
South Carolina.....	9.6	9.8	10.5	9.5	9.7	10	7.5	9	8.1
Georgia.....	11.7	10.6	10.5	11	11.2	11.5	10	10	9.8
Florida.....	6	.....	10	10	8.7	8.7	10	12	8.7
Alabama.....	10.2	9.8	8.1	9.5	12	15.2	8.5	10.2	9.2
Mississippi.....	9.1	9.7	8.2	10	9.4	11.1	10	10	8.1
Louisiana.....	6.7	6.7	10	10	8.1	10.2	16.5	9	9
Texas.....	8.7	11.8	8.1	8.7	10.1	9	10.2	8.2	9
Arkansas.....	11.3	7.5	9.2	9.6	13	7	.....	.....	14
Tennessee.....	9.6	9	9	9.1	9	10	.....	.....	10.1
West Virginia.....	12.2	11.4	10.1	9.6	.....	.....	.....	.....	11.1
Kentucky.....	10.7	12	8.8	.....	9	9.4	.....	.....	10.1
Missouri.....	10.8	12.1	9	10.1	10	9	.....	.....	10.8
Illinois.....	11	13.2	8.8	9.7	7.3	8.6	.....	.....	10.3
Indiana.....	13.3	11.7	9	9.1	.....	.....	.....	.....	10.3
Ohio.....	12.8	13.5	9	9.5	.....	.....	.....	.....	9.8
Michigan.....	11.1	14.5	9.5	9.7	.....	.....	.....	.....	9.8
Wisconsin.....	11.3	13.1	8.6	9.4	.....	.....	.....	.....	10.6
Minnesota.....	10.2	13.4	10	9.4	.....	.....	.....	.....	10.2
Iowa.....	11	13	9	8.8	.....	.....	.....	.....	11.2
Kansas.....	12.8	10.7	10.3	9.1	9.4	8.1	.....	.....	11.2
Nebraska.....	12.3	14.8	11.1	9.6	.....	.....	.....	.....	12.9

EXTRACTS FROM CORRESPONDENCE.

UTAH COTTON.

The Secretary of the Southern Utah Agricultural Society sends to the department a sample of cotton of fair quality grown in Washington county, in that Territory, and says:

"The first cotton grown in this section was from the 'Tennessee green' seed, which at first was very short in staple, but has steadily increased up to the present time, so that it now may be fairly stated that our cotton will favorably compare with any of the general crops raised in the best cotton-growing States. This improvement we believe is owing to the introduction of the 'Sea Island,' 'Petty Gulf' and 'North Carolina Green Seed,' by favor of your department. We found that by preserving the identity of the three last named kinds, our season was a little too short for their successful cultivation; but by ceasing to preserve that identity we now have a very good staple for all ordinary purposes; and so far as yield is concerned it is good for this country, where all crops must be irrigated. As high as 600 pounds of cotton lint, with good staple, has been raised on three-fourths of an acre, carefully measured, and no part of the growth of stalks exceeded four feet in height."

The same correspondent writes:

"I believe that a good variety of fall wheat would be a blessing to this country. We find that by sowing our spring wheat (Taos White) in September, we have harvested $71\frac{1}{2}$ bushels per acre, while the same kind of seed and soil, by putting in early in the spring, yields but from 22 to 25 bushels, and then the grain is not as plump as that raised from early fall sowing."

INCOME OF DAIRYING.

Medina county, Ohio.—Sheep are decreasing and cows increasing in this county. Almost every township has one or more cheese factories, and farmers generally carry their milk to them. Factory cheese is much sought after. Carry a cheese to the Cleveland market, and the first inquiry is, "Is it factory-made?" "No." "Then we don't want it." Thus we farmers are compelled to patronize these new institutions, which are working a great change in "Cheesedom," as our section of Ohio is called.

COTTON CULTURE IN NORTH CAROLINA.

Bertie county, N. C.—Our principal crop for market has been, and still is, cotton. We find it very profitable, and it is the most certain crop that we plant. The casualties which often prove disastrous to the crop at the south never happen to us. We are never seriously injured by the army worm, (which was never seen here,) the boll worm, the chinch bug, nor caterpillar. The rust and blight have sometimes, in the recollection of our farmers, injured the crop somewhat, but seldom more than two per cent., and it really amounts to nothing. Dry weather in the summer benefits the crop. By a little manuring we easily raise from one thousand to twelve hundred pounds of seed cotton per acre, and we can raise two thousand pounds. Upon comparing my own operations with those of persons whom I have met from the southern States—Tennessee, Mississippi, Louisiana, and Alabama—I have long been satisfied that it is more profitable to cultivate cotton in this section than upon their best lands, taking five years together—the losses from casualties to their crops more than balancing their superior yield in favorable seasons and our expenses for fertilizers.

SILK CULTURE IN CALIFORNIA.

A California correspondent (Mr. L. Prevost) writes encouraging accounts of the progress of silk culture in that State. He states that while not more than

twenty persons were engaged in the business last year, more than five hundred have commenced operations the present season, and expresses the opinion that there will be ten times the number next year. He writes: "My worms are doing finely this year. In about two weeks they will begin to make their cocoons. This year again, I have not seen one sick worm—a confirmation of my opinion that the disease is not in the worm, but in the food. My observations here have convinced me of that fact. It is well known that where the mulberry tree is growing in the shade the leaves absorb the oxygen of the atmosphere, and this is what creates disease in other countries. Here, at the time of feeding, we have constant sunshine from morning till night, and consequently our leaves are always in good condition for the worms. This is the secret of the superiority of California over other countries for the culture of silk. * * Immense quantities of silk may be produced in this State; we have millions of acres of the best mulberry soil, and the climate is the best in the world for the worms."

THE BOUGHTON WHEAT.

Duplin county, N. C.—Last fall I received from the department a small bag of Tappahannock or early Boughton wheat. This wheat (about one quart) I sowed in drills, eighteen inches apart, on the 15th of October. The land was a stiff, sandy loam, as fertile as land can well be made here. Immediately after the wheat came up the grasshoppers destroyed about one-fourth of it. In February I gave the wheat a top dressing of guano and phosphate of lime, mixed at the rate of two hundred pounds to the acre. In April the rabbits destroyed nearly one-fourth of the remainder. The wheat headed out the last week in April, and in May took the rust on the blades, injuring it to some extent. On the 10th of June I harvested the crop, obtaining a yield of three bushels and one peck of wheat from the one quart of seed—one hundred and twenty fold—an enormous yield for this section. The wheat grew, on an average, five feet in height, and ripened ten days earlier than our fall wheat. I think in an earlier spring it would ripen twenty days in advance of our common wheat, and ordinarily it would ripen early enough to escape the red rust, which is the greatest drawback we have to contend with in wheat-raising.

Smith county, Tenn.—I received from the department last fall two pounds of early Boughton or Tappahannock wheat, which was sowed on the 27th day of September, on one twenty-fourth part of an acre. It was cut on the 12th of June and threshed out eighty pounds of very fine wheat. Just as it was ripening the guinea chickens destroyed at least ten pounds of it. After all the loss, it will be seen that I saved at the rate of forty bushels to the bushel sowed, or thirty-five and a half bushels to the acre—more than double the best yield of ordinary wheat in this section. I shall sow the product this fall and test it on a larger scale.

Another correspondent, writing from De Kalb county, Alabama, received a similar package of the same wheat. He sowed it on land much worn, with a soil about three inches dark loam, and stiff clay sub-soil, which had been cultivated in corn the preceding year. The wheat was sowed on a square of twenty feet, fertilized with four loads of stable manure ploughed under. Harvested on the 18th of June, and on the 3d of July threshed out two and a half bushels (weighing one hundred and fifty-seven pounds) of the finest wheat ever seen in this neighborhood. I shall sow the whole in the fall, and if it yields half as well another year it will be a great addition to our crops.

HYBRIDIZING GRAPES

Chester county, S. C.—I have been for some years engaged in hybridizing the grape, and after many trials have succeeded in producing a hybrid Scupper-

nong grape-vine, which has fruited this season. It was produced by impregnating the white Frontignac with the Scuppernong. I have growing several seedlings produced by impregnating Herbemont with the staminate hybrid Scuppernong above referred to, one of which I expect will bear next summer. I have often made grape seedlings bear in one year from the seed by inarching on strong shoots of old vines, when the seedlings were only a few inches high. I expect to publish, in the course of the summer, the progress of my experiments. In hybridizing native and foreign, I have more hope from the Scuppernong than any other species. I have fruited a hybrid produced by impregnating the Clinton with foreign, which is equal in size to the Black Hamburg, and pronounced by Parsons & Co., (to whom I sent a bunch last summer,) "superior to Black Hamburg in flavor and its equal in texture." The Clinton hybrids are free from mildew. I have never been able to fertilize the Scuppernong with any other species, but have produced hybrids by fertilizing foreign with Scuppernong; but out of six vines of bearing size that have bloomed not one has borne fruit, being defective in their reproductive organs, although remarkably healthy vines. Some were hermaphrodites, but their stamens produced no pollen; others were males (staminate) and their stamens produced perfect pollen, with which I have impregnated both native and foreign, and hybrids of native and foreign. I now have a most interesting strain of Scuppernong hybrids coming on, and this spring attempted to impregnate Scuppernong with my staminate hybrid Scuppernong, with the hope of producing a valuable strain in that direction.

A correspondent, writing from Butler county, Missouri, sends us the following as a preventive of blight on grapes: "Saturate the leaves with air-slacked lime when the dew is on them, and if washed off by the rain renew the application. This preventive has never failed with me, and I now have fine grapes on vines from which all the fruit dropped before I tried the lime."

THE POTATO BUG.

De Kalb county, Ill.—The potato bug is making fearful ravages with the potato crop here. It is the same bug that came over the plains from the vicinity of the Rocky mountains, and is "marching along," carrying destruction in its train. We know of no remedy here other than "eternal vigilance." We whip them off from the vines, also pick them, and use quicklime; but to the lime they pay no regard. Probably the best method is picking and burning. Machines have been invented further west, where the crop was destroyed last year, which collect them in a box, and then they are burned.

Putnam county, Ill.—The potato bug is doing great damage in this county. Probably one-third of the vines are now destroyed, and the bugs are still increasing in numbers.

CHANGE OF COTTON SEEDS.

A correspondent, writing from Henderson county, Texas, says: "I know from experience that a change of cotton seed, much more than climate, affects the quality and quantity of the crop produced. Let any one who cultivates sandy land, where the cotton stalks grow tall, (and it grows as the timber grows,) exchange cotton seed every two or three years with his neighbor who cultivates stiff, limy land, where the cotton spreads and the joints are short, and both parties will be convinced of the advantage. A stranger, the first year, could point out the row where the exchanged seeds begin. The same is equally true of corn, wheat, rye, and barley."

GRASSHOPPERS IN NEBRASKA.

Nebraska City, Neb.—The season has been cold and backward, yet favorable for small grains, until the grasshoppers—or, as some call them, the red-legged

locusts—hatched and commenced depredations upon our wheat, which has suffered tremendously. Many fields will not be worth cutting. Some fields of corn are badly thinned, and we fear that when the wheat has matured they will attack the corn with renewed vigor. Potatoes in some places are completely stripped, and our gardens are eaten through and through.

Our correspondent from Richardson county, Nebraska, writes that the grasshoppers have destroyed nearly all the crop in that county, and are still at work.

Another correspondent, writing from Douglass county, Kansas, says the grasshoppers or locusts have been doing much damage in that vicinity to all kinds of vegetation.

DISEASE AMONG CATTLE.

Washington county, Nebraska.—A disease has prevailed in this county among cattle, called the “black leg.” Those attacked are invariably very early calves in the fall or common spring calves, at or near a year old, and always those in best condition and most promising in the lot. The first intimation of the disease is a slight lameness in one leg, and in about twenty-four hours the calf is dead, without any disfiguration or coloring until after death, when the leg turns black and appears in a high state of putrifaction. Nothing has yet, to my knowledge, been found to arrest or in the least to alleviate the disorder. A preventive has been said to exist in simply giving to the herd of calves during the fall and spring a mixture of salt and sulphur regularly. The disease is fast disappearing, but in former years nearly one-fifth of all the calves died of “black leg.”

VERMONT RAMS WANTED.

Randolph county, North Carolina.—We have no sheep in this part of the country but natives. The cost of keeping per head forty cents; yield of wool one and one-half pounds per head. Sheep are more numerous here now than before the war. O that some one of those rich gentlemen of Vermont that have so many of those wonderful Merinos would be pleased to donate a ram to some one or more persons here in order to improve our native breed. By so doing his name would ever be held in grateful remembrance by the people.

COST OF KEEPING SHEEP IN THE SOUTH.

Union county, South Carolina.—It costs very little to keep the sheep we have here. I will state some facts in regard to my own little flock. I wintered twenty-two. These sheltered only on two occasions; once for a week or ten days in January, when snow was on the ground, and once during a cold rain. I fed them about two months. The cost was as follows:

Twelve bushels cotton seed at forty cents.....	\$4 80
Salt for one year.....	1 50
Total cost.....	6 30

Cost for each sheep, 28½ cents.

From these sheep I have sixteen lambs. The wool will be worth from \$20 to \$25, and the increase, sixteen lambs, worth \$2 each by fall, \$32—giving me over \$40 clear. But sheep-raising receives little attention in a cotton country. I raise them only for the mutton. When dogs do not interfere with us, our mutton does not cost more than one cent per pound.

Lavaca county, Texas.—“Winter quarters” are, in a manner, unknown here. The sheep grazing on the prairies, when the range has been good all winter, owing to very mild weather, with the exception of a few cold days, are in very

good condition. There is no difference in cost of keeping the different breeds. Herding is generally done by small boys, at very little expense. The flocks in this county are mostly a mixture of the Mexican and Merino sheep; but little attention is being paid to this branch of industry.

DOG DEPREDACTIONS.

De Kalb county, Alabama.—"We have a fine county for sheep-raising, if there could be any protection from dogs. I have known all the sheep in the neighborhood killed in a few days, or nights, rather, by those pests."

Newton county, Georgia.—Cotswold and South Down sheep are favorites here. With proper care and security against dogs, no State is better adapted to sheep husbandry than this.

Wilkes county, Georgia.—We raise but few sheep. Dogs prevent this being a sheep-raising county.

WOOL PRICES.

The price current of wool at Boston, July 12, 1867, was as follows:

Ohio, Pennsylvania, and Virginia coarse, (common, one-quarter blood,) 45 to 50 cents; medium, (one-half blood,) 50 to 54 cents; fine, (three-quarters to seven-eighths blood,) 54 to 57 cents; extra, (full blood,) 57 to 60 cents; double extra, 60 to 63 cents; XXX, 63 to 68 cents.

Indiana coarse, 45 to 48 cents; medium, 48 to 51 cents; fine, 51 to 55 cents.

Michigan coarse, 45 to 48 cents; medium, 48 to 52 cents; fine, 52 to 55 cents; extra, 55 to 58 cents.

New York and Vermont coarse, 45 to 48 cents; medium, 48 to 52 cents; fine, 52 to 55 cents; extra, 55 to 57 cents.

Wisconsin and Iowa coarse, 42 to 45 cents; medium, 45 to 48 cents; fine, 48 to 52 cents.

Illinois and Minnesota coarse, 42 to 45 cents; medium, 45 to 47 cents; fine, 47 to 50 cents.

Sundries.—Combing, (Ohio, Pennsylvania, Indiana,) 55 to 58 cents; combing, (western,) 50 to 55 cents; combing, (Canada,) 65 to 68 cents; clothing, (Canada,) 47 to 50 cents; tub, (Ohio, Pennsylvania, Indiana,) 52 to 58 cents; tub, (western,) 48 to 53 cents.

Pulled, extra, 53 to 58 cents; superfine, 43 to 48 cents; No. 1, 35 to 40 cents; Philadelphia Merino, 50 to 53 cents; do. No. 1, 40 to 42 cents; Cincinnati, 37 to 40 cents.

The following were the prices in New York at the same date:

	Cents.
Pennsylvania, Ohio, and Virginia choice Saxony fleeces.....	70 to 75
Pennsylvania, Ohio, and Virginia Saxony fleeces	65 to 70
three-quarters and full-blood Merino ..	60 to 65
half-blood	55 to 60
quarter-blood	50 to 55
common	45 to 50
New York, Michigan, and Indiana, full-blood and three-quarter	57½ to 60
half-blood	52½ to 55
quarter-blood	50 to 52½
common	45 to 47½
Western, fine	50 to 55
medium	47½ to 52½
common	45 to 47½
Southern, washed	45 to 50

	Cents.	
Southern, unwashed	30	to 35
Texas, fine	30	to 37½
medium	25	to 30
coarse	22	to 30
inferior	15	to 20
burry	12	to 18
California spring clip, fine	30	to 45
medium	26	to 30
coarse	18	to 22
fall clip, fine	21	to 32
coarse	20	to 25
Oregon, combing	40	to 44
A 1 do.	35	to 42
A 2 do.	32	to 38
Canada, combing	65	to 70
domestic, combing	55	to 65
Country pulled, extra	55	to 60
super	45	to 60
Country, No. 1	28	to 35
New York city, extra	45	to 50
super	40	to 45
No. 1, pulled	25	to 30
Lambs' wool	37½	to 40
Philadelphia Merino	45	to 50
No. 1	40	to 45
Tub washed, choice	52½	to 57½
fair	50	to 55
inferior	45	to 47½
Mexican, washed, fine	30	to 40
medium	28	to 30
coarse	22	to 26
Buenos Ayres, Merino	34	to 38
Mestiza, No. 1	28	to 33
No. 2	24	to 26
No. 3	20	to 25
No. 4	20	to 22
Banda oriental and Montevideo Merino	38	to 40
No. 1	32	to 36
No. 2	30	to 32
No. 3	26	to 30
Entre Rio, washed	40	to 46
unwashed	20	to 22
Rio Grande, washed, fine Mestiza	40	to 46
unwashed	23	to 25
Odessa Merino	32	to 36
Australian	40	to 43
Cape	35	to 42
Donskoi, white, washed	45	to 50
black	30	to 32
unwashed, white	25	to 30
black and gray	18	to 22
Provence	15	to 20
Chilian, unwashed, fine fleece	25	to 32
medium	24	to 26
common	26	to 28

	Cents.
Valparaiso, fine, unwashed	25 to 28
coarse	28 to 30
Cordova, washed	28 to 40
Mogadore, unwashed	18 to 20
washed	30 to 40
Smyrna, washed	40 to 42½
unwashed	18 to 21
East India, fine, washed	40 to 42½
medium	30 to 32½
common	20 to 30
Spanish, washed	21 to 23
unwashed	15 to 23

WOOL IMPORTS.

The following table of imports of foreign wool at New York during the first six months in 1867 is not official, though probably reliable, as published in the New York Journal of Commerce:

Countries.	No. of bales.	Weight, lbs.	Entered, value.
England	7,436	3,086,365	\$607,012
Argentine Republic	6,220	4,412,994	679,152
France	3,346	1,251,311	164,509
Africa	221	98,830	17,918
Brazil	1,129	738,639	118,683
New Granada	14	2,181	279
Dutch West Indies	6	2,270	217
Mexico	1,717	1,390,107	229,653
Russia	4,135	1,515,359	309,137
British East Indies	100	33,600	5,475
British Australia	1,198	467,025	101,872
Total	25,522	12,998,681	2,233,907
Same time 1866	44,477	28,476,950	4,014,431

EXPORTS OF BREADSTUFFS FROM THE UNITED STATES.

The following statement is from the statistical bureau of the United States treasury:

Breadstuffs.	February.	March.	April.	May.	Total for four months.	
	Quantity.	Quantity.	Quantity.	Quantity.	Quantity.	Value.
Bread and biscuit, lbs.	522,151	546,516	583,851	523,049	2,175,567	\$187,355
Indian corn, bush	928,137	969,463	1,371,701	1,535,384	4,804,685	5,648,675
Indian meal, bbls.	14,132	21,340	22,586	29,955	88,012	519,412
Oats, bush	23,801	39,699	17,381	8,968	89,849	62,190
Rice, bbls	59,252	173,444	98,147	69,042	399,885	28,835
Rye, bush	30,481				30,481	27,087
Rye flour, bbls	144	11,148	2,111	1,824	15,227	51,113
Wheat, bush	681,407	432,790	529,023	474,076	2,117,296	2,512,396
Wheat flour, bbls	59,904	82,283	86,430	75,202	302,398	3,149,751
Potatoes, bush	55,977	44,458	25,315	21,607	147,357	146,179
Total						12,334,823

COTTON IMPORTS INTO GREAT BRITAIN.

Countries.	1866.	1867.
Cotton, raw :		
From United States, cwts	2, 471, 929	2, 690, 611
Bahamas and Bermuda	2, 734	4, 083
Mexico	3, 145	22
Brazil	332, 708	309, 862
Turkey	76, 794	40, 847
Egypt	551, 251	657, 197
British India	1, 649, 553	538, 815
China		2, 041
Other countries	91, 956	110, 004
Total	5, 180, 070	4, 353, 482

REVENUE OF GREAT BRITAIN.

From—	1866.	1867.
Customs	£21, 369, 000	£22, 531, 000
Excise	20, 067, 000	20, 554, 000
Stamps	9, 533, 000	9, 484, 000
Taxes	3, 421, 000	3, 496, 000
Property tax	5, 777, 000	5, 680, 000
Post office	4, 350, 000	4, 550, 000
Crown lands	321, 000	331, 000
Miscellaneous	2, 868, 436	3, 126, 829
Total	67, 726, 436	69, 752, 829

THE COTTON CATERPILLAR.

As the cotton caterpillar has already made its appearance unusually early in the season, we publish the following letter which the Department of Agriculture has received from Mr. G. W. Morse, of Natchitoches, Louisiana. The plan he recommends is doubtless good, as should all the planters combine to destroy the caterpillars when they first make their appearance in isolated plantations, before the moths have hatched out of the chrysalides, the second and third generations, which do all the damage, would not appear; or if they did, it would be in so few numbers as to do comparatively little harm to the crop. The department, however, has no power to authorize postmasters to employ laborers to destroy them, but if public meetings were held in different counties, the planters might adopt some plan by which combinations could be formed for their mutual benefit; for although a planter may feel comparatively safe as long as the worm is not in his own fields, yet if his neighbor's plantation is infested by them it is of the greatest importance to him to destroy them at once, before the second and third generations migrate to his own cotton and ruin the crop:

WASHINGTON, D. C., *July 17, 1867.*

SIR: It is reported by the newspapers that the cotton worms have again made their appearance in Louisiana, and as soon as they shall have time to grow to their full dimensions, and roll themselves up in the leaves, we shall probably hear, as usual, that they have all gone, or that the report was without foundation.

Believing that they have appeared, and that the greater part of the crop may yet be saved, I hope that I shall be excused for troubling you with this communication.

Many years ago I investigated this subject closely, surrounding a stock of cotton by mosquito netting, and raising the worm in that way. I ascertained the following facts:

1. The moth, or cotton fly, will deposit from three to five hundred eggs. These eggs are of a bluish green color, and seem to be glued to the under side of the leaf.

2. These eggs will hatch into worms in four days' time.

3. The worm will generally attain its full size in about eight days, and roll itself up in the leaf.

4. In eight days afterwards it will come out in the form of a moth, too well known to require description here.

5. The whole time required for one generation is from 26 to 28 days.

It follows, then, that a single worm on the first of July is capable of producing five hundred worms by the 28th of the same month. On the 5th of August these worms give us five hundred moths, part males and part females. We will suppose there are three hundred of the latter. This would give us 150,000 worms about the 24th of August, and these multiplied again by 300 would give 45,000,000 as the number produced by this one worm about the 20th of September. One hundred worms, then, on the first of July are capable of producing 4,500,000,000 on the 20th of September. Now, if these one hundred worms could be destroyed during the first few days of July, or even most of them, one month's time would be gained, and that month the one most essential to the maturity of the crop.

All plans of destroying the moths by fires in the fields, or by any other process of which I have yet heard, are entirely fallacious, and only do harm by leading planters to misapply their energies. The worms generally begin in some low place in the field, and at first eat round in a small circle, being few in number.

The only means by which the crop can be saved is to kill this first lot, or at least all that can be found of them, remembering always that every worm destroyed now is equal to many millions in less than three months' time. If this can be accomplished I am confident that one or two months' more time will be gained for the maturity of the crop.

Since we now have military governments in the south, I have thought that your official sanction to this plan would give it such weight that the commanding generals of Louisiana and Texas might endeavor to have it carried into execution by giving notice of the time when all should commence, or by other means which to him might appear, and his orders, I am confident, would be obeyed by the people with alacrity. To be successful the operation must be general, for it would be futile for one or two planters to attempt it while the rest remained idle. If I am correct in my views, and success should not reward our efforts this year, owing either to the want of concert of action or the lateness of the season, public attention would be directed to the proper course of proceeding, and another year better results might be obtained.

If the postmasters throughout the lower cotton region were properly instructed from your office, and authorized to offer a reward for the first cotton worm, moth, or egg which should make its appearance in their vicinity, and then authorized to employ laborers to destroy them, or have power to call out everybody for that purpose, no more crops would be lost by the cotton worm. The great difficulty is to obtain general action in time to produce the required results.

I am, sir, very respectfully, your obedient servant,

GEO. W. MORSE.

Hon. J. W. STOKES,

Acting Commissioner of Agriculture.

MANUFACTURE OF PERFUMERY.

From an interesting paper upon the cultivation of flowers and the manufacture of perfumery at Nice, France, by Mr. A. O. Aldis, United States consul at that port, we learn that the export of perfumery from Nice, Grasse, and Cannes to the United States last year amounted to about \$40,000. There are six or seven manufactories at Nice, the same number at Cannes, and at Grasse about sixty. These manufacturers supply perfumers in all quarters of the world. There is a distinction between the manufacturer and the perfumer. The business of the former is to extract from the flowers their essential oils. The perfumer buys these oils, pomades, and extracts, and compounds them in various ways.

A warm, dry climate, sunshiny during the period that the flowers are in bloom, is best for the manufacture of perfumery. The climate and long winters of our northern and middle States forbid the prosecution of this business, but it may become profitable in the States bordering on the gulf of Mexico and in California. A few years since a French manufacturer had an establishment in Louisiana, but finding it unprofitable returned to France in 1841.

Of all the fragrant flowers in the world only about twelve are used in the manufacture of perfumery, to wit: the violet, rose, orange flower, jasmine, tuberose, cassie, lavender, thyme, rosemary, geraniums, jonquil, and fennel—of which the rose and the orange flower are the most valuable. Of the numerous varieties of rose only one is used, the Provence rose, single, pale pink, the most sweet-smelling of roses—not hardy, a temperature of 20° Fahrenheit destroying the crop.

Mr. Aldis encloses a paper by Mr. F. Warwick, of Nice, on the cultivation of flowers for perfumery, from which we quote:

“The year commences with—

“*Violets, double Parma.*—These are usually cultivated beneath the orange trees. The ground ought to be well dug two feet deep with a forked spade. The best time of planting is about the first of April, immediately after the flowering has ended. Subdivide the old plant into five or six small bunches, or if you wish to preserve the original plant in its original place, merely take off the runners. Plant them in rows of nine or ten inches apart. As soon as they are fairly rooted they ought to have a good dressing of liquid manure, which should be repeated in December and January of each year. During the summer they must be irrigated every ten or fifteen days. The plantation should be renewed every five or six years. They begin to bloom in December. Picking for perfumery generally commences in February and ends the middle of April.

“*Jonquil* is cultivated in a good soil, exposed to the sun; needs no irrigation. The flowers are picked in April.

“*Roses* require a deep soil, exposed to the sun. The ground ought to be dug three feet deep. The off-shoots are taken with a small particle of root from the old plants and are planted in rows two feet from plant to plant in the row, and each row five feet apart. When planted out, cut them down, only leaving two ends above the ground. If the weather is dry, water them once after planting otherwise they do not require irrigating. The proper time for planting is from November to February. November is best on high, dry, and sloping ground. Once every year in January the ground should be well manured, dug with a forked instrument, and the superfluous off-shoots taken off to replant. The branches ought then to be bent and fastened or festooned, one plant to another, and dry or stunted branches cut away. The ground ought to be well hoed and cleared of weeds in June. The better they are cared for the better they yield. Nothing should be planted or sown between the rows. After the first year they yield a small crop. A plant from two to four years old will yield from twelve

to sixteen ounces of flowers. The picking begins the last of April or first of May and lasts from three to four weeks.

“*Orange*.—The orange is propagated from the seed. After the first year they are planted in rows about two feet apart. In the third year they are grafted, and in the fourth year removed to where they are to remain. Not only the spot where the tree is to stand but the whole ground should be dug four feet deep. This is of great importance. It will not be observed at first, but if not attended to when the tree is in its prime, a blight will appear and the tree will not increase in size. As this tree lasts with care above two hundred years, every attention ought to be paid to its infancy. The trees are planted in rows from twelve to twenty feet apart. Violets grow well beneath their shade, but should not be planted within three or four feet of the trees. The ground should be dug and manured every year—liquid manure—in March or the first of April, and the trees pruned in June every second or third year.

“The *sweet orange*, (called Portugal,) is cultivated for fruit; its flowers are of much less value for distillation than those of the sour orange and sell for only about half their price.

“The *sour* or *bitter orange* (called bigaradier) yields the best profit, and is less affected by the long, dry heat of summer. The fruit of the sweet orange makes the essential oil of sweet orange, generally called oil of Portugal. It is made in December or January by rubbing the orange in pewter cups, garnished with pricks, which pierce the vesicles of the rind, and cause the oil to flow out. The remainder of the rind is rasped and distilled, yielding an inferior oil. The pulp is mixed with bran and fed to cows, making them yield more milk.

“The bitter orange yields the best blossoms for perfumery. The blossoms are picked in May. The essential oil distilled from the blossoms of the bitter orange is called oil neroli. One ton of blossoms yields two pounds eight ounces of oil neroli. From the leaves and branches, which are pruned in June, is distilled the essential oil called ‘petit grains,’ which is much used in the manufacture of eau de cologne. The orange water obtained by distillation from the *leaves* is sometimes sold for and used as the orange water distilled from *flowers*, but it is very inferior to the *orange flower water*.

“The fruit of the bitter orange, by the rubbing process, yields a very fine essential oil, bigarade. It is used in many scents, but principally in the manufacture of the famous curaçoa.

“*Geranium*.—The oak leaf or scented verbenia geranium is propagated by cuttings in September, replanted in March or April, in ground well exposed to the sun and that can be freely irrigated. It grows to the height of four feet, is cut by the sickle, and distilled in August and September. One ton yields from twenty-four to thirty ounces of the essential oil.

“*Jasmine*.—A delicate flower, requiring much attention in the cultivation, picking, and manipulation. It requires a good, damp soil, easily irrigated, and well exposed to the sun. The grafted plants are placed two feet apart, in rows five feet apart. They must be cut down every spring to within a few inches of the ground. They flower abundantly from July to the end of October, and even later, though the flowers have little or no perfume. From the middle of July to the fifteenth of August the flowers are picked daily just about sunset; after August 15th they are usually picked in the morning as soon as the dew is off. The essential oil is so volatile that it cannot be extracted by distillation, the heated water decomposing it so that only a faint tinge of the perfume is left in the water that passes through the refrigerant.

“*Tuberose*.—This beautiful bulb requires a rich moist soil that can be easily irrigated, and that is well exposed to the sun. The bulb, after being freed from suckers, is planted in April, and blooms abundantly fifteen months afterwards. The time of picking is from the middle of July to October. Like the jasmine, the oil cannot be extracted by distillation.

"*Cassie*.—This pretty flowering shrub is cultivated from seed planted in espaliers. The ground ought to be well prepared to the depth of four or five feet and exposed to the south. It does not require irrigation. The flowers are picked from the first of October to the end of December; but those picked in October have much more perfume and obtain a higher price. The perfume is not very agreeably by itself, but is much used in compounds."

THE PROCESS OF MANUFACTURING.

1. From roses, orange flowers and leaves, geraniums, lavender, thyme and rosemary, the *genuine essential oils* are extracted by *distillation*.

The roses and orange flowers have to be very carefully picked over, the bulbs and all leaves, and everything which could discolor the product removed. They are then put into a still with water; the water is heated, and being thus infused with the flowers the steam rises filled with the oil of the flowers, and passes over into a tube which is coiled round and round in another cylinder filled with cold water, and which is called the refrigerant. Passing through the cold water, the steam is condensed and runs off into a glass receiver—the oil rising to the top, the perfumed water being below.

A ton of roses yields only two ounces of the attar. It is of a golden yellow color with a greenish tinge which become more intense with age. If kept at a temperature below 60° it crystallizes; if kept open to air and light it is easily volatilized.

The *essential oil* is also obtained from the fruit of the orange by rubbing the fruit in cups armed with pricks, as before described.

2. *Perfumed oils* are made by putting the flowers, after they have been carefully picked over, into the finest of virgin olive oil. Usually about twenty-five pounds of flowers are put into one hundred pounds of olive oil and left to infuse in the oil for one or two days; then the oil is warmed and strained, the flowers pressed to extract the oil from them; and then the same quantity of fresh flowers is again put into the oil, and this operation is repeated from twenty to twenty-five times. In this manner the perfumed oils of violet, jonquil, rose, orange, and cassie are made.

3. *Pomades*.—It has been found that the essential oil of flowers, which gives them their perfume, has a strong affinity to lard or grease. Lard and suet are clarified and prepared in the most careful manner, and mingled in the proportion of two parts of lard to one of suet. The product is as white as snow. This grease, thus clarified and prepared, is gently warmed, and when it liquifies, the flowers, most carefully picked over, are put into it. They remain in the grease, being macerated and stirred up in it, for several hours, till the perfume is supposed to have been extracted. Then the liquid grease is strained off and the flowers pressed to extract the grease they retain. This process is repeated with fresh flowers for twenty or twenty-five days, till the pomade is saturated with the perfume. In this way we have pomade of rose, orange, violet, cassie.

The pomades of *jasmine* and *tuberose* are made in a different way, as their essential oils are dissipated and lost by the application of heat, either in distillation or maceration with heated grease. Frames of wood, about twenty inches square, and somewhat like a schoolboy's slate, are made, a pane of glass being in place of the slate. These frames are so perfectly fitted to each other that when they are placed one upon the other the space between the panes of glass is almost hermetically sealed. No air can get in or out. When put one above the other, the spaces between the panes of glass are about half an inch in depth. Upon both sides of these panes of glass the finest clarified lard (pomade) is spread. The flowers of the jasmine, freshly picked, and if possible before they have lost any of their perfume, are sprinkled over the lard, and the frames are then put one upon another. Thus these delicate flowers are imprisoned in a little chamber of lard, and their perfume as it is exhaled is absorbed by the

pomade. They remain so in prison for twenty-four hours, when, having lost their perfume, they are carefully taken off and fresh flowers put in their place. This process goes on for fifty days, during which time the pomade has to be occasionally turned so as to expose all its particles to the perfume. At last, when sufficiently saturated with perfume, it is scraped off the glass and clarified. This is jasmine pomade.

Jasmine perfumed oil is made by still another process. Thickly woven cotton sheets (similar to lamp cotton) are saturated with the finest virgin olive oil, and then placed upon wire netting, held on wooden frames. The flowers are sprinkled on these sheets, thus saturated with oil, and left for twenty-four hours, when they are taken off and fresh flowers put on. This is repeated for about two months, when the oil being sufficiently filled with perfume, the sheets are folded and pressed till the oil is pressed out. In a moderate sized manufactory about two thousand such frames are required. The flowers of the tuberose are treated in the same way as the jasmine.

4. *Extracts*.—This term is applied to the oils or perfumes when extracted by spirits of wine or alcohol.

Strong as is the affinity between the perfume of flowers and grease, their affinity for alcohol has been found to be still greater. Hence, if pomades are immersed in alcohol, the perfume is attracted to the alcohol and leaves the grease. In this way the pomade is left in the alcohol for five or six weeks, and stirred several times a day; at the end of the time the alcohol becomes sufficiently perfumed, and we have an extract.

Thus are produced the extracts of rose, orange, jasmine, tuberose, cassie, and violet.

5. Orange-flower water and rose-water are important products of this business; they are distilled from the flowers, and become separated from the oils in the process of distillation. Orange-flower water is considerably used as a kind of healthy medicinal beverage; it is mixed with "eau sucrée."

THE ANGORA AND CASHMERE GOATS.

Mr. J. S. Diehl, now in Europe collecting information concerning the wool of these animals and its manufacture, writes from Paris, dated May 2, 1867, that he has entered his Cashmere and Angora specimens at the exposition, and thinks his specimens finer than any he has seen. Any amount of Cashmere, camel's hair, and other costly shawls and fabrics are made out of goats' fleece, with various kinds of looms, at the Exposition. He obtained some very fine lithographs and photographs of the genuine and original India or cashmere looms, with valuable information as to the mode of manufacturing.

He wrote again, Paris, May 24, sending circulars and cards representing firms, and cuts of machines manufacturing all kinds of fabrics and goods from Cashmere, Thibet, and Angora goats' hair and wool; also specimens of combed, carded, and spun wool. Nearly all the material is sent from Asia and Russia, is carded, combed, and spun in England and Scotland, and then sent all over Europe to be further manufactured; involving the necessity of following up inquiries in all these centres or points of the trade and manufacture.

The specimens sent comprise some of the finest wools and yarns, leaving him to believe that the reported fabulous prices of \$6 and \$8 per pound for the wool will prove to be mythical, at the best. The very finest Cashmere wool, bleached and combed ready for use for shawls, sells in France at only \$16 per pound. Purchasers of goats in this country will do well to make a note of this, and govern themselves accordingly. But from all he can learn and has seen, he believes that the raising of the goats and manufacture of the wools and hair may be made more

successful in the United States than in Europe; and will proceed on his mission accordingly.

From Leeds, England, June 8, he writes briefly that he has visited the principal centres of manufacture, and had personal interviews with the heads of manufactories and mercantile houses connected with the business. They assured him that they had demand for all the raw material that could be procured; and pronounced his American specimens the most beautiful they had seen—fully equal, if not superior, to the best imported.

His next is from Hamburg, June 12, with numerous cards and circulars, all pertaining to the manufacture.

The next is from Vienna, June 25, with representations and accounts of the various Jacquard looms there in operation, including a newly invented double Jacquard, by which both surfaces of the shawl are wrought at the same time. He states terms on which workmen and looms can be procured from there for the United States, and says they were astonished at the specimens of American Angora fleece he showed them. He concludes: "I am fully satisfied we can make it a success, more valuable than any other wool, fleece, or fabric now known."

The Jacquard loom, even the most improved, is cheap, ranging from \$7 to \$35 (gold) on the spot; but combing and spinning machinery must be procured from England. When the materials can be furnished in sufficient quantities, and the machinery is at work, doubtless American ingenuity will devise many improvements to cheapen and yet render the whole business more profitable.

TEMPERATURE OF THE SOIL.

As this subject is both interesting and important in agriculture, we give the results of observations recently made in Berlin, Prussia:

Depth in feet—thermometer scale of Reaumur.

	4 feet over.	surface	1'.	1½'.	2'.	2½'.	3'.	4'.	5'.
December, 1864..	2.23	1.16	0.36	0.73	1.45	2.04	2.87	3.94	4.34
January, 1865....	0.31	0.61	0.59	0.02	0.55	1.03	1.67	2.61	2.99
February	4.10	3.10	2.55	1.02	0.25	0.27	0.97	1.94	2.39
March	0.53	0.23	0.49	0.23	0.17	0.37	0.81	0.56	1.88
April	8.15	5.71	4.58	4.41	3.89	3.95	2.59	3.56	3.08
May	15.00	12.44	11.32	10.71	9.42	9.21	8.26	7.56	6.52
June	12.29	10.76	10.51	10.54	10.15	10.01	9.54	9.19	8.42
July	17.70	15.78	14.80	14.26	13.21	12.90	11.95	11.00	9.88
August	14.04	12.92	12.69	12.63	12.28	12.24	11.83	11.53	10.82
September	12.98	11.34	11.17	11.20	11.15	11.13	10.96	11.00	9.88
October	7.73	6.73	6.80	7.30	7.71	8.00	8.46	9.00	9.03
November	4.95	4.27	4.35	4.85	5.23	5.53	6.10	6.84	7.10
December	1.74	1.20	2.35	3.03	3.03	4.02	4.56	5.36	5.81
January, 1866....	3.16	2.38	2.29	2.75	3.10	3.37	3.73	4.48	4.85
February	3.35	1.54	2.40	2.96	3.43	3.67	4.02	4.68	4.96

CULTURE OF SUGAR BEETS.

Mons. De Crombecque, of Belgian Agricultural Society, advocates the advantage of planting sugar beets in ridges as favorably influencing the growth of the plant, the leaves thereby not interrupting it. In strong soil it mellows a larger amount of fertile matter, while in light soil the moisture is absorbed in greater quantities, enabling the roots to go deeper into the subsoil. He says that "the culture on ridges requires less manure than on a flat surface, more

ground being obliged to contribute nourishment to the plants. The beets may be weeded with the plough, a great economy of labor, and the plants grow longer and send their roots deeper, thus suffering less from disease, heat, and rain. Plants thus grown also yield a larger percentage of sugar and starch." * * "I have often noticed that in sowing cereals after beets the yield was increased and vegetation stronger when the beets had been planted on ridges."

FARM PRODUCTS AND DOMESTIC ANIMALS IN EUROPE.

Dr. F. B. W. Von Hermann, of the Bavarian Bureau of Statistics, furnishes the following estimates of farm products and domestic animals in the countries named:

Countries.	Bushels for 1,000 inhabitants, deducting seed.							Bushels of oats for 1,000 horses, deducting seed.	Domestic animals for 1,000 inhabitants.			
	Wheat spelt.	Rye.	Mixed grain.	Maize.	Equivalent of all in rye.	Barley.	Potatoes.		Horses.	Cows.	Sheep.	Hogs.
Austria	1,866	2,372	552	1,644	7,332	1,815	4,398	39,766	642	1,152	3,006	1,500
Prussia	1,176	4,818	.....	.....	6,582	1,140	10,998	60,522	576	1,098	6,114	968
Saxony	2,148	4,088	.....	.....	7,410	1,890	13,824	116,738	276	1,176	1,368	696
Wurtemberg	3,816	1,002	324	.....	7,128	3,036	10,932	83,694	336	1,626	2,382	756
France	6,084	1,566	538	606	11,892	1,122	3,498	50,472	480	772	5,580	882
Belgium	3,372	2,892	462	.....	8,526	834	13,920	63,138	366	876	774	606
Holland	1,050	2,246	.....	.....	3,624	954	11,142	35,304	444	1,704	1,566	492
Ireland	828	24	.....	.....	3,734	774	11,514	79,026	630	1,782	3,600	1,200
Bavaria	2,778	4,128	.....	.....	8,298	2,958	10,936	51,348	486	1,956	2,634	1,188

MINERAL PHOSPHATE OF LIME.

The use of apatite, or mineral phosphate of lime, as a fertilizer, is at present attracting considerable attention in Europe, and from recent experiments made, in comparison with other fertilizing substances, this mineral promises to take high rank among fertilizers. The native phosphate of lime, or apatite, is a hard and often well-crystallized mineral, chiefly composed of phosphoric acid and lime, and, as stated by Professor Johnson, is found in Devonshire and Cornwall, England, and also in Scotland, but as yet not in sufficient quantity to allow of its being collected for economical purposes. On the continent it is found in several places, as in the Tyrol, Bohemia, Bavaria, Sweden, and Norway. Most commonly it occurs in thin seams, imbedded in crystalline or volcanic rocks, but seldom in sufficient quantity to repay the cost of working. In America it is found imbedded in granite at Baltimore, in gneiss at Germantown, and in granite in Connecticut, New Hampshire, and Maine, and also in Canada and various other localities. Mineralogists distinguish several varieties of apatite, but generally speaking it has a light green or a reddish color. The beds found in Canada are said to be extensive and the mineral is equal if not superior to that found in Europe. An analysis of the Canada apatite gives the following result:

Phosphate of lime	91.20
Fluoride of calcium	7.60
Chloride of calcium	0.78
Insoluble	0.90
	<hr/>
	100.48
	<hr/>

This mineral is found in extensive beds and deep veins on the borders of the Rideau river and accessible to river craft. It will, doubtless, be found in

many places in the United States also, where its presence has not yet been discovered.

Guano is limited in supply, and moreover the opinion is gaining ground in Europe that it is exhaustive to the soil, whereas apatite is enriching and sustaining. A number of experiments have recently been made with this fertilizer in England, with most satisfactory results. One of these trials was made by Sir Harry Verney. The soil on which he applied the phosphate was a heavy sandy loam, resting on a clayey subsoil. The ground was sown with chevalier barley with the following result :

	Manure per acre.			Produce. Bushels.
	Tons.	Cwts.	Tcs.	
Soil simple.....	—	—	—	32½
Burnt bones.....	0	18	0	43½
Unburnt bones.....	1	7	0	40
Pigeons' dung.....	0	18	0	61
Spanish phosphorite and sulphuric acid.....	0	18	0	51½
Spanish phosphate alone.....	0	18	0	43½
Superphosphate of lime.....	1	5	3	46¾
Stable-yard dung.....	20	0	0	66

Another experiment upon the growth of turnips, was made by Dr. Daubeny, of England, with the following result :

	Roots, lbs.	Tops, lbs.
Soil simple produced per acre.....	14, 298	30, 591
Manured with 10 cwt. bone shavings.....	19, 239	35, 210
Spanish phosphorate alone 12 cwt.....	28, 639	42, 016
Spanish phosphorate 12 cwt. mixed sulphuric acid	30, 869	34, 476
South American guano, 260 lbs.....	31, 114	47, 060
Bones with sulphuric acid, 11 cwt.....	31, 898	17, 600
Bones finely powdered, 12 cwt.....	36, 185	45, 446
Stable dung, 22 tons.....	39, 476	49, 921

These trials entirely accord with the experience of others on the native phosphate of lime, and show that, while in every instance a considerable increase of crop was obtained by the addition of certain fertilizers, the Spanish phosphate, especially when its action was quickened by the addition of sulphuric acid, proved nearly as efficacious as bones themselves, unless, indeed, when the latter was very finely powdered.

STATISTICS OF BAVARIA.

From figures published by Dr. F. B. W. von Hermann, of the Royal Bureau of Statistics, we gather the average yield of breadstuffs and hay per acre in the several provinces of the kingdom of Bavaria.

Provinces.	CEREALS.		HAY.	
	Highest.	Lowest.	Highest.	Lowest.
	Bushels.	Bushels.	Cwt.	Cwt.
Upper Bavaria..... per acre..	25.82	5.70	34.8	1.9
Lower Bavaria..... " ..	29.68	7.00	37.3	7.7
Pfalz..... " ..	29.24	5.60	59.2	4.5
Upper Pfalz..... " ..	30.08	5.80	44.8	3.7
Upper Franconia..... " ..	19.88	5.88	48.5	4.8
Middle Franconia..... " ..	26.60	5.68	42.5	5.3
Lower Franconia..... " ..	29.63	4.24	55.2	2.0
Swabia..... " ..	32.78	7.07	43.5	2.5

The following table gives the total yield in bushels for the years named :

Years.	Wheat.	Rye.	Spelts.	Barley.	Oats.
1810.....	1,008,000	2,462,000	576,000	1,026,000	1,134,000
1812.....	978,000	2,498,000	420,000	1,080,000	1,224,000
1833.....	1,356,000	2,124,000	492,000	1,083,000	990,000
1839.....	1,296,000	2,100,000	534,000	894,000	1,176,000
1853.....	1,272,000	2,118,000	540,000	870,000	1,200,000
1863.....	1,446,000	1,956,000	528,000	1,038,000	1,032,000

Table showing the relative amounts of tillage and meadow lands in the several provinces :

	<i>Acres.</i>	<i>Acres.</i>
Upper Bavaria.....	1,362,400	865,400
Lower Bavaria.....	978,400	444,800
Pfalz.....	624,800	118,000
Upper Pfalz.....	980,000	292,000
Upper Franconia.....	710,000	246,400
Middle Franconia.....	831,600	213,600
Lower Franconia.....	940,000	196,000
Swabia.....	791,400	521,600

The average size of farms is now estimated at about thirty acres, of which over eleven acres, on an average, is woodland.

The following gives the rates of wages paid to laborers and servants, including the value of board, &c.:

Provinces.	Male field hands by the day.	Female field hands by the day.	Male servants by the year.	Female servants by the year.
Upper Bavaria.....	£0 37	£0 27	£81	£61
Lower Bavaria.....	28	19	67	57
Pfalz.....	23	18	69	50
Upper Pfalz.....	19	16	61	49
Upper Franconia.....	20	16	62	51
Middle Franconia.....	21	17	70	56
Lower Franconia.....	23	18	64	53
Swabia.....	26	21	75	56

It may be remarked that for the last ten years wages have increased from 20 to 40 per cent., especially in regions of commerce and manufactories.

CROPS OF SEVERAL COUNTRIES IN EUROPE, ACCORDING TO THE BUREAU OF STATISTICS IN
BAVARIA, 1866.

Countries.	Wheat.		Rye.		Mixed grain.		Maize.		Barley.		Oats.		Potatoes.	
	Bushels.	Per acre.	Bushels.	Per acre.	Bushels.	Per acre.	Bushels.	Per acre.	Bushels.	Per acre.	Bushels.	Per acre.	Bushels.	Per acre.
Austria.....	80,428,000	16.94	107,076,000	14.02	24,894,000	15.45	77,520,000	31.50	82,902,000	15.24	165,201,000	23.40	193,320,000	.....
Prussia.....	13,792,000	12.67	103,476,000	9.45	.....	.....	.....	.....	23,208,000	25.50	117,974,000	21.76	214,806,000	64.46
Saxony.....	4,914,000	24.70	9,750,000	25.04	.....	.....	.....	.....	4,296,000	30.56	12,720,000	39.14	32,976,000	18.86
Wurtemberg...	7,878,000	15.16	2,076,000	20.19	7,740,000	17.04	.....	.....	6,276,000	27.34	9,642,000	30.60	22,356,000	112.52
France.....	257,198,000	15.05	68,130,000	12.67	22,062,000	15.59	22,506,000	15.26	46,250,000	18.14	166,578,000	20.20	156,144,000	77.26
Belgium.....	17,178,000	21.60	16,380,000	22.88	2,430,000	23.98	.....	.....	4,242,000	38.66	20,028,000	27.30	72,054,000	196.72
Holland.....	3,990,000	19.16	8,616,000	16.48	.....	.....	.....	.....	3,600,000	23.30	10,104,000	34.78	42,944,000	102.66
Ireland.....	3,553,000	15.16	162,000	18.21	.....	.....	.....	.....	5,190,000	27.29	57,144,000	29.36	80,268,000	79.20
Bavaria.....	15,684,000	15.10	29,388,000	16.14	.....	.....	.....	.....	16,678,000	19.92	24,624,000	21.98	61,712,000	203.24

METEOROLOGY.

[Compiled in the Department of Agriculture from reports made by the observers for the Smithsonian Institution.]

JULY, 1867.

Table showing the highest and lowest range of the thermometer, (with dates pre-fixed,) the mean temperature, the amount of rain, (in inches and tenths,) for July, 1867, at the following places, as given by the observers named. Daily observations were made at the hours of 7 a. m. and 2 and 9 p. m.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MAINE.								
Steuben	Washington	J. D. Parker	13	81	8	43	60.5	<i>In.</i> 3.60
Lee	Penobscot	B. H. Towle	30	82	8, 10	48	61.3	1.15
West Waterville....	Kennebec	B. F. Wilbur	22, 30	82	8, 10, 26	52	66.6	1.65
Gardiner	do	R. H. Gardiner	28	79	8	48	64.3	1.96
Lisbon	Androscoggin	Asa P. Moore						3.12
Standish	Cumberland	John P. Moulton	15, 30	86	8, 26	49	66.8	2.70
Cornish	York	Silas West	22, 30	84	8, 9	50	65.7	1.49
Cornishville	do	G. W. Guptill	15, 30	81	8	48	67.2	2.91
Averages							64.6	2.32
NEW HAMPSHIRE.								
Stratford	Coos	Branch Brown	23	83	5	44	64.3	2.03
North Barnstead....	Belknap	C. H. Pitman	15	86	8	48	66.8	2.51
Concord	Merrimac	John T. Wheeler	22	90	10	46	67.9	1.83
Claremont	Sullivan	Arthur Chase	24, 30	86	9	45	66.8	4.15
Averages							66.5	2.63
VERMONT.								
Lunenburg	Essex	H. A. Cutting	11	84	18	40	65.7	3.75
North Craftsbury ...	Orleans	Edward P. Wild	15, 23	84	8	47	65.0	2.65
Randolph	Orange	Charles S. Paine	24	87	1	48	69.5	2.70
Middlebury	Addison	H. A. Sheldon	24, 30	80	1	54	66.9	2.84
Averages							66.8	2.99
MASSACHUSETTS.								
Kingston	Plymouth	G. S. Newcomb	6	84	10	42	63.4	1.38
Georgetown	Essex	S. Augs. Nelson	13	87	9	48	65.5	.....
Newbury	do	John H. Caldwell	28	89	10	47	66.9	.....
North Billerica	Middlesex	Rev. E. Nason	7	88	8	52	.....	.....
New Bedford	Bristol	Samuel Rodman	5, 28	79	8, 9	49	65.0	2.44
Do,	do	Edward T. Tucker	24	85	10	46	67.2	2.06
Worcester	Worcester	Joseph Draper, M.D.	7	85	9	52	67.2	3.32
Mendon	do	J. G. Metcalf, M. D.	24	84	9	49	67.0	1.60

Table showing the range of the thermometer, &c., for July—Continued.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MASS.—Continued.								
Lunenburg	Worcester	G. A. Cunningham..	24	88	8	51	67.2	6.05
Amherst	Hampshire	Prof. E. S. Snell....	6	85	10	51	67.1	5.67
Richmond	Berkshire	Wm. Bacon	16	92	8	50	72.1	4.50
Williams College	do	Prof. A. Hopkins	7	87	10	51	67.0	1.47
Averages							66.9	3.17
RHODE ISLAND.								
Newport	Newport	Wm. H. Crandall...	29	84	8, 9	48	64.6	3.50
CONNECTICUT.								
Pomfret	Windham	Rev. D. Hunt	13, 24, 30	80	9	45	63.4	4.91
Columbia	Tolland	Wm. H. Yeomans...	13, 28	86	9	50	68.0	.....
Middletown	Middlesex	Pf. J. & W. A. Johnston	13	89	10	48	68.7	5.33
Colebrook	Litchfield	Charlotte Rockwell..	7	87	8, 9	52	66.7	.....
Groton	New London	Rev. E. Dewhurst	6, 13	84	9, 10	48	66.7	5.24
Averages							66.7	5.18
NEW YORK.								
Moriches	Suffolk	E. A. Smith & daugh's	29	85	10	51	68.7	8.13
South Hartford	Washington	G. M. Ingalsbe	30	87	1, 10	54	71.6	10.95
Troy	Rensselaer	Jno. W. Heimstreet..	7, 30	89	1	59	71.3	3.24
Germantown	Columbia	Rev. S. W. Roe	13, 24, 30	90	1, 12	58	71.4	5.40
Garrisons	Putnam	Thomas B. Arden....	30	87	9	50	68.0	4.93
Throg's Neck	Westchester	Miss E. Morris	28, 30	88	9	50	69.0	.....
White Plains	do	O. R. Willis	6, 7, 8, 13	82	9	48	67.8	.....
Deaf and Dumb Inst.	New York	Prof. O. W. Morris..	30	91	9	47	68.5	10.18
Columbia College	do	Prof. Chas. A. Joy	30	87	9	47	69.0	5.37
St. Xavier's College	do	Rev. J. M. Aubier	6	87	9	47	69.8	.....
Gouverneur	St. Lawrence	C. H. Russell	24	86	5	54	68.3	1.73
North Hammond	do	C. A. Wooster	24	90	1	54	69.2	1.33
South Trenton	Oneida	Storrs Barrows	15	94	1	48	68.6	5.30
Cazenovia	Madison	Prof. Wm. Soule	24	90	1, 19	55	68.4	.....
Oneida	do	S. Spooner, M. D.	30	90	4	55	68.9	7.43
Houseville	Lewis	Walter D. Yale	30	88	1	50	68.0	2.24
Depauville	Jefferson	Henry Haas	24, 25	87	1	52	67.6	2.22
Theresa	do	S. O. Gregory						1.13
Oswego	Oswego	Wm. S. Malcolm	30	88	4, 5	52	66.2	1.41
Palermo	do	E. B. Bartlett	30	90	9	51	68.0	1.60
Nichols	Tioga	Robert Howell	7	95	1	48	69.1	.....
Geneva	Ontario	Rev. W. D. Wilson, D.D.	30	88	1	51	68.3	2.05
Rochester	Monroe	M. M. Mathews, M.D.	30	90	1	53	69.5	1.40
Rochester University	do	Prof. C. Dewey	14, 23, 27	85	1	55	69.7	1.40
Little Genesee	Allegany	Daniel Edwards	30	91	1	44	68.3	1.50
Buffalo	Erie	Wm. Ives	23	93	4	52	70.3	1.77
Suspension Bridge	do	W. Martin Jones	23, 27	94	1	42	69.3	.....
Averages							65.1	3.84
NEW JERSEY.								
Paterson	Passaic	Wm. Brooks	16	92	9, 11	50	69.9	8.49
Newark	Essex	W. A. Whitehead	16	84	11	45	66.9	9.75
New Brunswick	Middlesex	Geo. H. Cook	30	86	9	50	68.8	10.90
Trenton	Mercer	E. R. Cook	16, 30	86	9	52	73.1	9.91
Burlington	Burlington	John C. Deacon	30	85	9, 10	50	68.7	8.85

Table showing the range of the thermometer, &c., for July—Continued.

Stations.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
NEW JERSEY—Con.								
Mount Holly.....	Burlington.....	M. J. Rhees, M. D.....	15, 30	85	11	50	68.8	In.
Seaville*.....	Cape May.....	Barker Cole.....	30	88	11	42	67.4	11.55
Dover.....	Morris.....	Howard Shriver.....	6, 30	84	9, 11	51	67.5	8.28
Readington.....	Somerset.....	John Fleming.....	13, 30	88	11	*52	67.8	.....
Haddonfield.....	Camden.....	Samuel Wood.....	14, 30	85	11	50	68.6	6.41
Greenwich.....	Cumberland.....	R. C. Sheppard.....	28, 30	86	9	53	70.1	5.45
Averages.....	.....	.....	.....	.....	.....	.....	68.9	8.84
PENNSYLVANIA.								
Nyces.....	Pike.....	John Grathwohl.....	30	85	2, 11	45	65.4	3.70
Fallsington.....	Bucks.....	Eben'r Hance.....	15	87	9	52	69.0	8.00
Philadelphia.....	Philadelphia.....	Prof. J. A. Kirkpatrick.....	15, 16, 30	88	9	51	71.5	10.95
Germantown.....	do.....	Thomas Meehan.....	17	88	{ 10, 11, 12, 15 }	{ 56	72.5	.....
Horsham.....	Montgomery.....	Anna Spencer.....	30	84	9	50	64.6	12.67
Dyberry.....	Wayne.....	Theodore Day.....	7	88	1	46	65.2	.....
North Whitehall.....	Lehigh.....	Edward Kohler.....	16, 30	84	11	43	67.4	.....
Parkesville.....	Chester.....	F. Darlington.....	30	89	11	43	69.5	8.65
Reading.....	Berks.....	J. Heyl Raser.....	6	94	11	50	71.6	.....
Ephrata.....	Lancaster.....	W. H. Spera.....	13, 30	90	11	56	72.5	6.53
Mount Joy.....	do.....	J. R. Hoffer.....	16, 30	88	11	54	71.2	5.25
Harrisburg.....	Dauphin.....	John Heisely, M. D.....	6	89	11	57	73.3	3.64
Ickesburg.....	Perry.....	Wm. E. Baker.....	15, 30	89	11	55	70.1	5.16
Lewisburg.....	Union.....	Prof. C. S. James.....	30	86	10	57	70.4	4.92
Tioga.....	Tioga.....	E. T. Bentley.....	7	98	1, 2, 11	50	69.5	1.70
Fleming.....	Center.....	Samuel Brugger.....	30	87	1	51	67.1	2.43
Pennsville.....	Clearfield.....	Elisha Fenton.....	7	90	1	49	67.5	1.32
Connellsville.....	Fayette.....	John Taylor.....	25, 27, 30	88	19	56	72.5	.....
New Castle.....	Lawrence.....	E. M. McConnell.....	7, 14, 27	87	1	44	69.2	.....
Canonsburg.....	Washington.....	Rev. W. Smith, D. D.....	6, 23, 27	86	1	52	71.0	1.97
Averages.....	.....	.....	.....	.....	.....	.....	69.6	5.49
MARYLAND.								
Woodlawn.....	Cecil.....	Jas. O. McCormick.....	30	89	10	52	71.6	3.74
Catonsville.....	Baltimore.....	George S. Grape.....	16	87	10, 11	56	70.2	.....
Annapolis.....	Anne Arundel.....	Wm. R. Goodman.....	30	88	11	56	72.4	6.41
St. Inigoes.....	St. Mary's.....	Rev. J. Stephenson.....	14, 30	89	9	54	73.4	3.73
Emmitsburg.....	Frederick.....	Eli Smith.....	30	92	11	54	71.2	.....
Averages.....	.....	.....	.....	.....	.....	.....	71.8	2.63
VIRGINIA.								
Cape Charles L. H.....	Northampton.....	Jean G. Potts.....	28	84	9	56	70.8	13.54
Surry C. H.....	Surry.....	B. W. Jones.....	29	92	9, 10	58	75.1	.....
Hewlett's.....	Hanover.....	J. F. Adams.....	30	88	1	46	69.6	5.50
Mount Solon.....	Augusta.....	James T. Clark, M. D.....	15, 30	86	11	56	72.2	.....
Lynchburg.....	Bedford.....	Chas. I. Merriwether.....	30	84	11	52	.....	.....
Averages.....	.....	.....	.....	.....	.....	.....	71.9	9.52
WEST VIRGINIA.								
Romney.....	Hampshire.....	W. H. McDowell.....	6	92	1, 10	58	72.3	.....
Grafton.....	Taylor.....	W. H. Sharp, M. D.....	17	94	1	56	.....	1.20
Cabell C. H.....	Cabell.....	C. L. Roffe.....	29	88	20	58	74.0	0.10
Averages.....	.....	.....	.....	.....	.....	.....	73.2	0.65

* In March report the rain fall should have read 19.10.

Table showing the range of the thermometer, &c., for July—Continued.

Stations.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
NORTH CAROLINA.								
				°		°	°	In.
Goldsboro'.....	Wayne.....	E. W. Adams, A. M..	30	92	10, 11	59	75.3	15.15
Oxford.....	Granville.....	Wm. R. Hicks, M. D.	30	87	11	55	73.1	8.35
Raleigh.....	Wake.....	Rev. F. P. Brewer...	30	99	10	57	75.2	.....
Albemarle.....	Stanley.....	F. J. Kron.....	30	93	1	54	72.7	9.04
Statesville.....	Iredell.....	Thos. A. Alison.....	14	86	11	50	69.2	6.75
Asheville.....	Buncombe.....	E. J. Aston.....	30	85	9	59	69.6	14.40
Averages.....							72.5	10.74
SOUTH CAROLINA.								
Aiken.....	Barnwell.....	John H. Cornish.....	27	91	11	61	73.0	11.49
ALABAMA.								
Moulton.....	Lawrence.....	Thos. M. Peters, A. M.	9, 10	85	19	61	75.3	5.43
Prairie Bluff.....	Wilcox.....	Wm. Henderson.....	15	96	2	73	81.6	.....
Opelika.....	Lee.....	J. H. Shields.....	10	91	12	69	77.8	.....
Havana.....	Hale.....	J. W. A. Wright.....	11, 27	86	8	44	67.7	5.29
Averages.....							75.6	5.36
FLORIDA.								
Jacksonville.....	Duval.....	A. S. Baldwin.....	29	97	{ 4, 5, 6, 11, 22 }	72	80.5	10.49
Gordon.....	Alachua.....	H. B. Scott.....	2, 16, 25, 29	92	10, 11	70	79.4	.....
Port Orange.....		J. M. Hawks, M. D..	29	88	9, 11, 22	74	79.8	.....
Averages.....							79.9	10.49
TEXAS.								
Houston.....	Harris.....	Miss E. Baxter.....	24	100	1	68	82.0	.....
Waco.....	McLellan.....	Edw. Merrill, M. D..	21	101	1	66	82.6	2.80
Austin.....	Travis.....	J. Van Nostrand....	22	97	1	66	81.2	5.05
Averages.....							81.9	3.93
LOUISIANA.								
Benton.....	Bossier.....	J. H. Carter.....	17	92	2	65	83.2	.....
MISSISSIPPI.								
Grenada.....	Yalabusha.....	Albert Moore.....	22, 23	90	4	60	.....	.....
Fayette.....	Jefferson.....	Rev. T. H. Cleland..	24	86	2, 4	64	74.9	.....
Natchez.....	Adams.....	Wm. McCary.....	25	88	20	66	76.8	4.76
Averages.....							75.9	4.76
TENNESSEE.								
Lookout Mountain..	Hamilton.....	Rev. C. F. P. Bancroft	29	88	12	66	75.2	.....
Clarksville.....	Montgomery.....	Prof. Wm. M. Stewart	17	87	3	63	73.9	2.53
Franklin.....	Williamson.....	I. M. Parker.....	{ 23, 27, 28, 29 }	87	7	64	76.2	.....
Averages.....							75.1	2.53
KENTUCKY.								
Chilesburg.....	Fayette.....	Sam'l D. Martin, M. D.	29	92	1	54	73.1	4.86
Louisville.....	Jefferson.....	Mrs. L. Young.....	17, 30	90	1	55	72.0	4.58
Averages.....							72.6	4.72
OHIO.								
Steubenville.....	Jefferson.....	Roswell Marsh.....					77.0	2.55
Martin's Ferry.....	Belmont.....	Chas. R. Shreve.....	28, 30	87	4	60	72.4	.....

Table showing the range of the thermometer, &c., for July—Continued.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
OHIO—Continued.								
Painesville	Lake	E. J. Ferris		o	3	56	o	In.
Milnersville	Guernsey	Rev. D. Thompson	24	98	3, 19	54		2.85
Cleveland	Cuyahoga	Dr. T. A. Smurr	30	98	3, 19, 20	60	74.3	
Wooster	Wayne	Martin Winger	30	91	19	58	73.9	
Kelley's Island	Erie	Geo. C. Huntington	17, 30	88	1	58	72.4	1.19
Norwalk	Huron	Rev. A. Newton	30	90	9	56	70.8	1.45
Greenwich	do	M. M. Marsh, M. D.	17	89	3, 4	61	74.5	3.21
North Fairfield	do	O. Burras	30	90	1	54	69.2	2.76
Marion	Marion	H. A. True, M.D.	30	89	3, 20	58	71.5	4.92
Kenton	Hardin	C. H. Smith, M. D.	6	89	3, 4	60	74.3	4.63
Urbana University	Champaign	M. G. Williams	30	90	3, 4	58	73.3	4.08
Hillsboro'	Highland	J. McD. Mathews	30	88	4	57	72.1	2.32
Bethel	Clermont	Geo. W. Crane	6, 17, 30	88	3, 9, 10	58	71.8	3.00
Cincinnati	Hamilton	R. C. Phillips	25, 30	90	1	62	77.6	3.67
College Hill	do	John W. Hammitt	22, 25, 30	90	1, 19	60	74.8	6.38
Do	do	L. B. Tuckerman	14	91	3, 4, 18	58	73.7	5.50
Averages.							73.4	3.32
MICHIGAN.								
Monroe City	Monroe	Miss F. E. Whelpley	15, 30	93	3	44	73.7	2.25
State Agricult'l Col.	Ingham	Prof. R. C. Kedzie	23	92	3	55	71.6	2.83
Litchfield	Hillsdale	R. Bullard	23	93	3	55	68.4	2.56
Grand Rapids	Kent	E. S. Holmes, D.D.S.	23	96	3	53	72.7	
Northport	Leelanaw	Rev. Geo. N. Smith	6, 29	86	1, 3, 4	48	64.1	
Otsego	Allegan	Milton Chase, M.D.	8, 23	90	2, 3	50	68.7	
Copper Falls	Keweenaw	Dr. S. H. Whittlesey	11	80	2	44	60.1	3.42
Ontonagon	Ontonagon	Edwin Ellis, M. D.	23, 24	90	2	42	62.7	
Averages.							67.8	2.77
INDIANA.								
Aurora	Dearborn	Geo. Sutton, M. D.	17	94	1	59	74.9	4.70
Vevay	Switzerland	Chas. G. Boerner	22	100	18	60	79.6	3.20
Muncie	Delaware	G. W. H. Kemper, M.D.	30	94	3, 18	58	74.5	3.30
Columbia City	Whitley	Dr. F. & Miss McCoy	22, 23	96	18	56	78.3	2.00
Indianapolis	Marion	Mrs. Z. Butterfield	22	96	19	57	74.3	
Merom	Sullivan	Thomas Holmes	24	84	1	56	73.4	1.10
New Harmony	Posey	John Chappellsmith.	24, 30	91	18	65	77.9	1.43
Averages.							76.1	2.62
ILLINOIS.								
Chicago	Cook	Samuel Brookes	6	100	1	54	74.3	
Do	do	J. G. Languth, jr.	30	94	1	56	72.4	1.86
Golconda	Pope	W. V. Eldredge	23	98	3, 13, 19	58	78.2	1.80
Aurora	Kane	A. & E. D. Spaulding	22	90	2	48	72.0	3.41
Sandwich	De Kalb	N. E. Ballou, M. D.	22	96	1, 2	58	73.4	6.93
Ottawa	La Salle	Mrs. E. H. Merwin	22	97	18	59	74.0	3.73
Winnebago	Winnebago	J. W. & Miss Tolman	8, 9, 30	92	1	55	72.3	3.74
Hennepin	Putnam	Smiley Shepherd	6, 22, 30	92	18	52	70.0	
Magnolia	do	Henry K. Smith	9	95	19	51	73.9	5.70
Rochelle	Ogle	Daniel Carey	22	96	1	54	73.0	
Wyanet	Bureau	E. S. & Miss Phelps	22	93	1	54	73.5	3.30
Tiskilwa	do	Verry Aldrich	22	96	1	55	73.6	
Elmira	Stark	O. A. Blanchard	22	94	2	56	74.5	1.62

Table showing the range of the thermometer, &c., for July—Continued.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
ILLINOIS—Cont'd.								
Peoria	Peoria	Frederick Brendel ..	6, 22	92	18	59	75.1	² 92
Springfield	Sangamon	G. M. Brinkerhoff ...	22	94	1, 2	54	74.6	.....
Loami	do	Timothy Dudley	22	97	1, 17	61	75.6	2.60
Waterloo	Monroe	H. Künster	21, 22	96	1	58	78.0	.....
Dubois	Washington	William C. Spencer ..	23	94	3	50	74.2	5.18
Manchester	Scott	Dr. J. & C. W. Grant ..	22	95	1, 2, 18	61	75.2	3.36
Mount Sterling	Brown	Rev. A. Duncan	14	93	2, 27	62	78.2	.....
Andalusia	Rock Island	E. H. Bowman, M. D. ..	8, 9	91	1, 3	57	72.9	.....
Augusta	Hancock	S. B. Mead, M. D.	22	87	18	61	77.0	3.65
Averages .....	.....	.....	.....	.....	.....	.....	74.4	3.56
WISCONSIN.								
Manitowoc	Manitowoc	Jacob Lüps	30	91	1	50	65.7	1.34
Plymouth	Sheboygan	G. Moeller	14, 22, 23	91	2	53	71.3	1.50
Milwaukee	Milwaukee	I. A. Lapham, LL.D. ..	30	92	1	46	67.4	2.04
Do	do	Carl Winkler, M. D. ...	30	92	1	52	67.8	2.23
Geneva	Walworth	Wm. H. Whiting	22	92	1, 3	54	72.1	.....
Delavan	do	Leveus Eddy	30	86	1	53	69.7	2.03
Waupaca	Waupaca	H. C. Mead	23	92	1	50	72.6	.....
Do	do	C. D. Webster	7	90	1	50	69.5	4.70
Embarrass	do	E. Everett Breed	9	98	1	48	68.2	3.70
Rocky Run	Columbia	W. W. Curtis	8, 9, 12	89	1	52	75.4	2.31
Baraboo	Sauk	M. C. Waite	10	91	1	52	73.4	5.25
New Lisbon	Juneau	John L. Dungan	8	94	1	54	67.7	.....
Averages .....	.....	.....	.....	.....	.....	.....	70.1	2.79
MINNESOTA.								
Beaver Bay	Lake	C. Wieland	11	84	4	44	59.1	7.46
Red Wing	Goodhue	A. M. Stevens	29	95	2	51	68.5	8.91
St. Paul	Ramsey	Rev. A. B. Paterson ..	12	88	1	50	68.1	9.55
Minneapolis	Hennepin	Wm. Cheney	13	86	2	51	68.1	9.24
New Ulm	Brown	Charles Roos	29	93	1, 19	52	71.2	11.65
Do	do	John Kauta	2, 29, 30	100 {	1, 17, 18, } 19, 27, 28 }	50	70.0	.....
Averages .....	.....	.....	.....	.....	.....	.....	67.5	9.36
IOWA.								
Davenport	Scott	Sydney Smith	10	88	1	52	72.6	3.88
Dubuque	Dubuque	Asa Horr, M. D.	9, 30	89	1, 2	56	73.1	6.83
Monticello	Jones	M. M. Moulton	6	91	1	54	71.8	6.32
Fort Madison	Lee	Daniel McCready	9	91	25	59	72.2	4.11
Guttenberg	Clayton	Jas. P. Dickerson	6, 7, 8, 12	92	2, 3, 17	52	70.1	.....
Ceres	do	Jno. M. Hagensick ..	6	94	1	54	73.2	.....
Mount Vernon	Linn	Prof. A. Collins	6, 8, 9	92	17	54	71.2	.....
Iowa City	Johnson	Prof. Theo. S. Parvin ..	4, 12	90	18	50	70.5	3.94
Independence	Buchanan	Mrs. D. B. Wheaton ..	6	93	2, 27	53	72.4	10.40
Do	do	Geo. Warne, M. D.	9	91	1, 2	53	71.8	7.20
Waterloo	Black Hawk	T. Steed	22	88	17	52	69.8	.....
Marble Rock	Floyd	H. Wades	7, 30	86	28	52	70.0	.....
Iowa Falls	Hardin	N. Townsend	30	88	2, 18	50	65.6	17.20
Des Moines	Polk .....	.....	3	90	17	53	72.8	10.25
Algona	Kossuth	P. Dorweiler	12, 29	90	1	52	69.6	.....
Do	do	James H. Warren	12	88	17	53	69.4

Table showing the range of the thermometer, &c., for July—Continued.

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NOTES OF THE WEATHER, JUNE 1, 1867.

FROM THE SMITHSONIAN INSTITUTION.

Gardiner, Maine.—Mean temperature of the month about half a degree below the average of the month for thirty-one years. Amount of rain an inch and a quarter less than the average.

Steuben, Maine.—June 10.—Frost by the river this morning.

Lee, Maine.—June 10.—White frost in low places, no injury to vegetation. 28.—First ripe strawberries seen growing wild.

South Antrim, N. H.—June 30.—There has been very little rain this month, and the ground is now pretty dry.

Georgetown, Mass.—June 16.—Severe thunder-shower at 5.10 p. m.; a house struck by lightning and a man killed.

Richmond, Mass.—June 16.—Heavy thunder-shower from 2 to 3½ p. m.; roads badly washed.

Lunenburg, Mass.—June 7.—At 1 p. m. the thermometer stood at 94°, wind west; at 1½ the wind veered into the east; at 3 p. m. the temperature had fallen to 56°, with a heavy thunder-shower from 3 to 4½ p. m.

Columbia, Conn.—June 30.—There has been a peculiarity in all showers thus far this season, that instead of breaking away and being followed by fair weather, they run into a drizzling rain or cloudy weather for two or three days.

Troy, N. Y.—June 16.—Heavy thunder-shower from 1.50 to 2.45 p. m. For twenty minutes the roll of thunder was almost continuous.

Rochester, N. Y.—Mean temperature of the month was three degrees and a third above the general average for June. Rain 1.40 inch; general average for the month three inches.

Buffalo, N. Y.—The mean temperature of the month was five and one-third degrees higher than the average of June for nine years. The first strawberries raised in this county appeared in market on the 15th from the town of Eden.

Moriches, N. Y.—This June has been remarkable for the large amount of rain, and for a set of the wind from the southeast after clearing up, instead of from the southwest as usual at this season of the year.

South Hartford, N. Y.—The most notable feature of the month was the great rain of the 15th and 16th, over seven inches of water falling in twenty-four hours, the bulk of it in eight hours, from 9 p. m. of the 15th to 5 a. m. of the 16th.

Newark, N. J.—During the last twenty-four years (the period covered by the reports from this station) there were only seven Junes in which the mercury did not rise above 90 degrees, and but one of those (June, 1862) had so low a maximum as the month just closed (84°.) The mean temperature was less than a degree below the average of the month during that period. The most marked peculiarity of June was the quantity of rain that fell (9.745 inches,) being more than six and a half inches above the average for the month during the last twenty-four years, and more than three inches above the quantity in any June during that period. The rains were distributed throughout the month.

Greenwich, N. J.—There was an unusual number of rainy days during the month; one day was entirely clear and six were nearly so.

Fallsington, Penn.—The past June was the wettest on the record of the observer, which began in 1849.

Philadelphia, Penn.—A very heavy rain began during the night of the 16th; at 8 a. m. the 17th, nearly four inches had fallen; the rain continued in heavy showers at intervals until the night of the 18th, amounting in all to 7.36 inches. The month was cold and wet; the mean temperature was nearly two degrees below the average. June, 1862, was three degrees colder than the present

month. The quantity of rain was greater than ever observed before in June. The nearest approach to it was in June, 1855, when eight inches fell.

Horsham, Penn.—June was unusually wet; about one-third more rain fell than in any month for the last three years.

Fleming, Penn.—June 17.—A terrific thunder-storm passed over this place this evening between 8 and 10 o'clock, which did more damage than any storm in the same length of time for many years. From six to eight miles west of this the water fell in such torrents that it swept away everything before it; a steam saw-mill, storehouse, road bridges, railroad bridges, and tracks, were carried away in a very short time, while a few miles further west there was very little rain.

Grampian Hills, Penn.—June was remarkable for the small quantity of rain which fell. The weather has been mostly warm and dry; no floods or storms of wind, and but little thunder or lightning. The rains through the month were very light, there being but one (on the 2d) that reached one-fourth of an inch on any one day.

Emmitsburg, Md.—June 11.—Frost this morning, but doing no damage. 18.—Rain 9 a. m. to 11 a. m. Heavy rain at 4 p. m.

Woodlawn, Md.—June 11.—Frost in the valleys, thermometer 40° at 4 a. m.

Mount Solon, Va.—June 25.—Very hard storm, continuing from one p. m. to two p. m.; a great quantity of water falling in a short time. 30.—There has been very little thunder during the month.

Cape Charles Light-house, Va.—June 9.—Heavy thunder and lightning at 10 p. m., from the southeast; duration of the squall one hour and forty minutes. Rain from 11 a. m. 18th to 8 a. m. the 19th. 24th, thunder squall with sharp lightning and heavy rain from 5 p. m. to 8 a. m.

Ashland, West Virginia.—During the month of June in this vicinity only one-tenth of an inch of rain has fallen, and all crops are suffering badly for the want of rain, particularly corn. In many parts of the county there have been frequent showers, and corn crops are promising.

Grafton, West Virginia.—June has been unusually dry; during the latter part of the month vegetation has been rather hurt by the drought.

Goldsboro', N. C.—The fall of rain during this month has been greater than at any time within memory. The rivers are very full, causing a sad destruction of low land crops.

Albermarle, N. C.—This has been the wettest June in this part of the country remembered by the oldest men. The consequences have been injury to the late wheat while in bloom, drowning out the corn in the bottoms, and an impossibility in all situations to keep fields and gardens clean.

Raleigh, N. C.—During the past month the streams have been higher than at any former period for years, and cotton, corn, and wheat have been seriously injured.

Moulton, Ala.—June 6.—Irish potatoes abundant for the table. 10th, mulberries fully ripe. 14th, wheat harvest commenced. 26th, oats harvested. 28th, rye ripe.

Austin, Texas.—Colorado river very high from the 13th to the 15th.

Waco, Texas.—The Brazos river was higher on the first of June than it had been before for several years.

Chilesburg, Ky.—The two heaviest rains of the month were on the 2d and 12th. On the evening of the 8th there was a thunder-storm with little rain, but very strong wind, blowing down some fences.

Cincinnati, Ohio.—June 4.—Heavy thunder-storm from 4½ p. m. to 5 p. m.; fall of rain during that time an inch and a half.

College Hill, Ohio.—June 4.—Hailstorm from 4 to 4.30 p. m.; began from the SW. and returned from the NE. Many of the hailstones were as large as hickory nuts.

Kelley's Island, Ohio.—June 26.—Catawba grapes in full blossom. 30th, temperature of lake 73°.

Vevay, Ind.—June 24.—The first wheat cut in Switzerland county. The yield throughout the county is said to be unprecedented. On account of the great heat and comparatively small amount of rain, vegetation is suffering, particularly the corn. The ground is cracking open in many places. On digging a hole not the least sign of moisture was found until reaching a depth of eighteen inches. Were it not for the heavy dews and fogs nearly every morning, much vegetation would have perished.

Sandwich, Ill.—On the night of June 22, at 11 o'clock, began one of the most violent thunder-storms that has visited this region for many years. The lightning was not of a terrific character, but the wind blew a gale, and rain fell in three hours to the unprecedented amount of five and one-tenth inches. In some localities much damage was done. At Elgin, in the adjoining county, the Baptist church was unroofed, and the building of the American Watch Company partly unroofed.

Rochelle, Ill.—June 23.—The thunder-storm last night was an unusually heavy one, both in quantity of rain and in the amount of thunder and lightning.

Tiskilwa, Ill.—June has been a month of continued warm weather, with frequent showers, remarkably fine for ploughing corn and killing weeds.

Dubois, Ill.—June 6.—A violent gale from the south at 4.30 p. m., with thunder, lightning, hail and rain, blowing down trees and fences, and unroofing buildings.

Augusta, Ill.—June 6, at 5.15 p. m., a very strong whirlwind for a few minutes.

Plymouth, Wis.—June 30.—The crops here are suffering from the drought, especially spring wheat, barley, oats, and all kinds of vegetables, while all around there have been good showers of rain in the latter part of the month.

Embarrass, Wis.—There was a good deal of thunder and lightning during the month with hard showers.

Baraboo, Wis.—June 28.—Slight frost this morning, in low places, very little damage done. The observer has never seen more good growing weather in one month than during the past June. The growth of crops, trees, &c., is much greater than known for the last twenty years in Wisconsin. Hops are two weeks in advance of last season at this date, and many things are growing in the same ratio.

Red Wing, Minn.—The month has been very rainy, and the river unusually high.

Des Moines, Iowa.—June was characterized by heavy rains. The rivers have been unusually swollen, and out of their banks. The Des Moines river has been higher this spring than at any time since the great flood of 1851, and lacking only a few inches of the same mark.

Monticello, Iowa.—There was lightning on twenty-six days in June.

Algona, Iowa.—There have been many thunder-storms during the month. On the 14th, thunder-showers followed each other in quick succession all day. The river rose over the bottoms and within eighteen inches of the April flood. June 23.—Thunder-storm at 7.40 a. m. Another terrible thunder-storm at 11 a. m. The lightning struck the Baptist church, tearing the steeple to splinters. Another thunder-storm at 5 p. m., all from the northwest. The last one came back from southeast at 9 p. m. Rained till 8 a. m. of the 24th.

Guttenberg, Iowa.—There was a great rise in the Mississippi river during June, reaching its height on the 23d, two feet higher than in May.

Independence, Iowa.—June.—Chestnut in first leaf. 4th, hickory and black oak putting out first leaf. 10th, burr oak and soft maple in full leaf. 15th, hickory in full leaf.

Holton, Kansas.—June 5th, grasshoppers destroying the gardens in town.

10th, passing by the million, southeast. 28th, on the wing going north-north-east with the wind by the million. 30th, getting scarce; supposed to be done here, or nearly so, unless they come from some other place. Some fields of wheat are eaten up, while others are not hurt.

Council Grove, Kansas.—All the rains this month have been accompanied with much thunder and lightning.

Peru, Nebraska.—In October last the grasshoppers came from the northwest and covered this country and deposited their eggs. In the spring they began to hatch, and they have done much damage to the crops. Wheat and oats are mostly destroyed, and they are now working on the corn. At the end of the month they began to take wing, and soon the air became so filled with them that they appeared like fleecy clouds.

Glendale, Nebraska.—The principal rain in June was on the 8th and 9th, two and a quarter inches falling during those two days.

Richland, Nebraska.—June 5th, trees generally in leaf. 7th, raspberry blooming. 26th, currants ripe. 30th, more than the first half of the month was wet and violent.

MONTHLY REPORT

OF

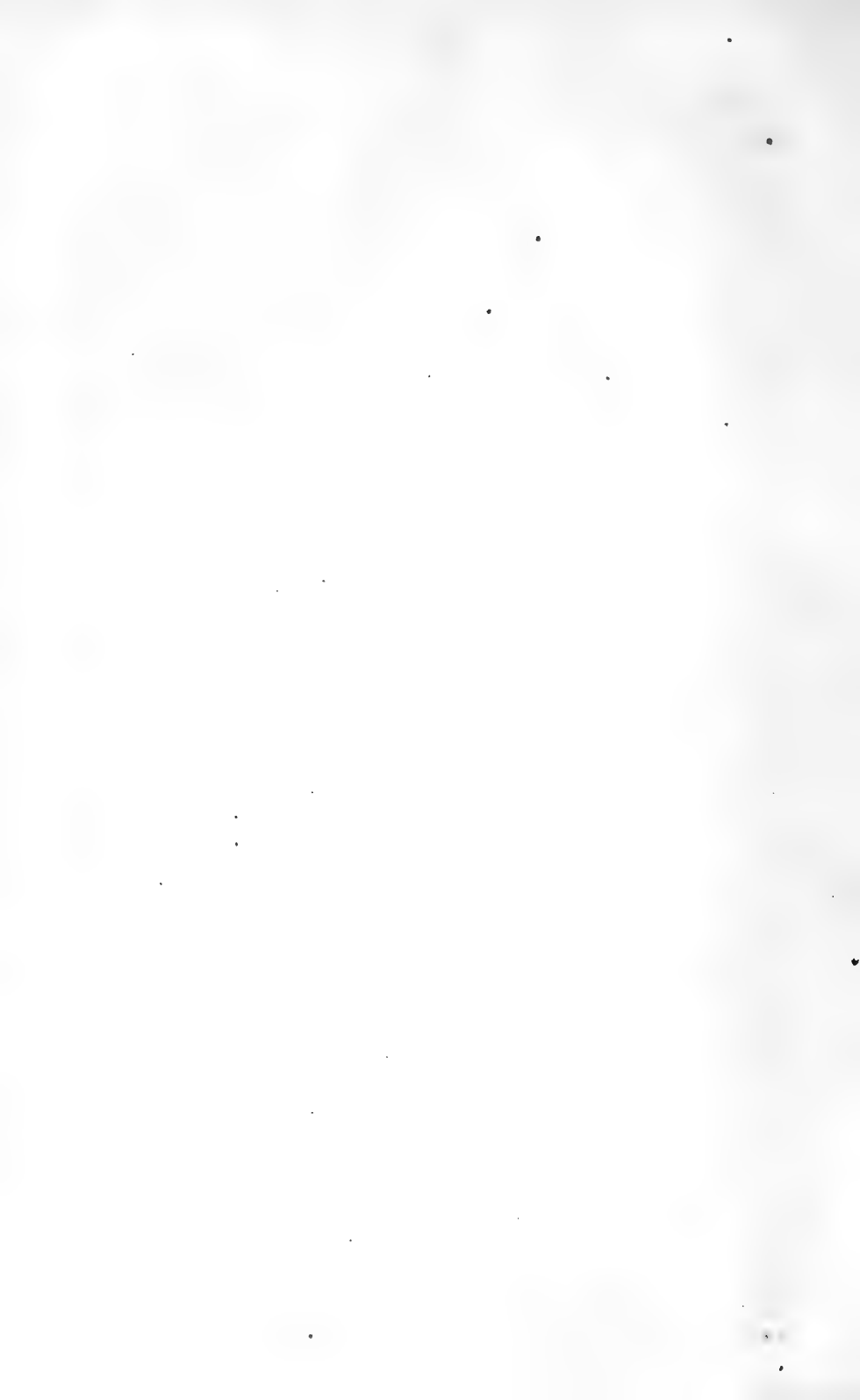
THE DEPARTMENT OF AGRICULTURE,

FOR

AUGUST AND SEPTEMBER, 1867.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1867.



MONTHLY REPORT.

WASHINGTON, D. C., *September 20, 1867.*

SIR: I submit herewith for publication a report of returns to the Statistical Division, showing the condition of farm crops in the several States on the first days of August and September, respectively; together with numerous extracts from the correspondence of the division, embracing various matters pertaining to the interests of agriculture, and very full meteorological tables for the months of July and August.

J. R. DODGE, *Statistician.*

Hon. J. W. STOKES,
Acting Commissioner.

CONDITION OF THE CROPS.

The crop tables for August give the general averages for the several States, made up from the approximate estimates of our correspondents of the quantity of the crops then harvested, as compared with those of 1866, together with the current condition of the growing crops at the date of return; while the tables for September pertain chiefly to the state of the fall crops, in relation to which more definite information will be given in succeeding reports.

Wheat.—From the August returns it will be observed that there is a uniform reduction in the general averages of wheat, as compared with the July figures, and that the September estimates of condition when harvested, as compared with the crops of 1866, drop the figures somewhat lower in a number of the States—attributable, to a considerable extent, to bad weather while harvesting, as well as to the fact that in some sections the grain was found to be shrivelled, and threshed out less to the acre than anticipated. The leading wheat-growing States report the following percentage of increase at the close of the harvest: Ohio, 130 per cent.; Indiana, 50; Michigan, 33; Wisconsin, 17; Minnesota, 25; Illinois, 15; Iowa, 20; Missouri, 40; Kentucky, 34; West Virginia, 60; Virginia, 50; Tennessee, 40; Georgia, 80; Arkansas, 45; New York, 14, and Pennsylvania, 40; while only Kansas and Texas show a falling off from last year, when the crops in those States were very large. The returns due October 1 will enable us to estimate with a greater degree of accuracy the amount of this great crop for the current year.

Corn.—The prospect for a corn crop continues to improve, and if the frost holds off the general crop may be a fair one. While a number of the States return low estimates, others, particularly the southern States, show marked improvement over the yield of last year. Georgia promises to double her crop of 1866; Alabama reports an increase of 75 per cent.; Mississippi, 80; Tennessee, 21; Louisiana, 40; South Carolina, 54; and Arkansas, 100 per cent. Ohio falls 30 per cent. behind last year, estimating from condition on 1st September; Indiana, 17; Illinois, 14; Kentucky, 28; West Virginia, 15; and Virginia, 10.

Cotton.—The cotton crop promised well up to the 1st instant, when the worms were making their appearance, and much apprehension was then felt in various

sections for the safety of the crop. Under the head of "Extracts from Correspondence," we give notes from the several cotton-growing States. At the date of our returns Georgia promised to yield 53 per cent. beyond her crop of 1866; South Carolina, 50; Alabama, 42; Mississippi, 24; Arkansas, 18, and Tennessee, 9; while Louisiana and Texas show a considerable falling off from last year.

Rye, barley, and oats exhibit no material change from the previous reports, though oats were seriously injured in some sections by the extreme wet weather during the harvest; but generally the crop appears superior to that of last year.

Buckwheat shows an average acreage, with prospect of a fair crop.

Potatoes are rotting badly in many of the large potato-growing States, and the crop will probably fall below the yield of last year.

Sugar cane and sorghum.—The leading sugar-producing States show a fair increase over the crops of last year. Sorghum is evidently on the decline in most of the States, without sufficient reason. The crop now growing is in good condition.

Apples and peaches.—In a few of the States the apple crop promises well, but in a majority the yield will be from 10 to 40 per cent. below the crop of 1866. Peaches were much injured by the rains of July and August, and orchards which promised well early in the season have proved entire failures. With the exception of a few States, the crop is grown for home consumption or local markets, which fact, together with the irregularity of the yield in different seasons, renders it difficult to reduce the various estimates to averages for the States, though we include the figures.

Hay shows an increase in almost every State, and quite large in many of them, Pennsylvania returning an increase of 50 per cent.; New York, 24; Michigan, Wisconsin, and Illinois, 28; Indiana, 26; indeed, the general average will reach from 25 to 30 per cent. above the crop of 1866.

The wool clip of 1867 will probably fall from five to ten per cent. short of the crop of last year, attributable to the severe weather of last winter and the consequent exposure and destruction of a large number of sheep.

Table showing the condition of the crops, &c., on the first day of August, 1867

STATES.	WHEAT.			RYE.	BAR- LEY.	OATS.	CORN.	BUCKWHEAT.	
	Quantity of winter wheat, com- pared with 1866.	Quantity of spring wheat, com- pared with 1866.	Total quantity, taking winter and spring wheat together, compared with 1866.	Total quantity of rye, compared with 1866.	Condition of barley, compared with 1866.	Condition of oats, compared with 1866.	Average condition of corn on the 1st day of August, com- pared with 1866.	Average acreage sown, com- pared with last year.	Average condition on the 1st day of August, compared with last year.
Maine	10	10.7	10.8	9.9	9.8	10.2	10	10.1	10
New Hampshire	9.8	11.3	10.6	10	10.3	11.1	9.3	10.2	10.6
Vermont	10.5	11.5	11	10	9.7	9.4	9.4	12.4	9.8
Massachusetts	11	11	11	10.5	10.5	10	10.8	10.1	10.2
Rhode Island				10	10	10	10		
Connecticut	11	10	10.5	11.6	10.8	11	10.5	11	10
New York	11.9	9.7	11.4	10.6	9.4	9.4	10.2	11.1	10.1
New Jersey	12	10	12	11	11	11.3	9.8	10.2	10.6
Pennsylvania	14	10.5	14	12	11	11.1	9.6	10.3	9.6
Delaware	13		13	10	14	11.5	10	10	12
Maryland	11.5		11.5	10.2	10	9.8	9	9.5	10
Virginia	15	11	15	11.8	9.5	9.9	9	9.4	9.1
North Carolina	13	13	13	11.3	13	11.4	8.3	9.5	9.1
South Carolina	13	11.8	13.2	11.5	10	12	12.7	10	10
Georgia	18	12	18.1	11	11.9	13	20	10.6	11
Florida				7.5		7.5	12.5		
Alabama	15	10	15	10.5	11	14	20	15	15
Mississippi	10.2	10	10.2	9.8	10	11	20	10	10
Louisiana	10		11	10	10	11.5	14		
Texas	5.8	5.6	5.8	7.9	7.4	8.3	13	8	10
Arkansas	14.5	10.4	14.5	11	10	14	17	12	12
Tennessee	14	12	14	10.2	10	8.9	13	10.4	10.3
West Virginia	16	12	16	12.1	11.1	10.9	9	9.2	9.2
Kentucky	13.5	9.8	13.4	10.8	10.3	9.8	9.8	10.2	10
Missouri	14	12	14.3	11.8	10.4	12.5	10.5	11.3	10.5
Illinois	10.6	11.5	10.7	9.8	10.2	11.5	9.5	9.7	9.4
Indiana	15	11	15	11	10.7	11	9.3	9.7	9.5
Ohio	22.5	14	23	13.2	11.5	11	8.2	8.2	9
Michigan	13	11.2	13.3	10	10	10.1	10.2	10	10
Wisconsin	11.5	12	11.7	10.7	11.5	12.1	10.6	10	9.9
Minnesota	10.2	12.5	12.5	10.3	10.8	12.6	9.7	10.4	10.2
Iowa	10.4	12.3	12	9.8	10.8	11.8	10	10.8	10.5
Kansas	9	10.6	9.4	9.8	10.3	10.5	12.6	12	10.8
Nebraska	7.1	15	11.5	10.4	9	10.1	11.6	13	11.7

Condition of the crops, &c., on the first day of August, 1867—Continued.

STATES.	POTATOES.	BEANS.	SORGHUM.	HAY.				
	Average condition of potatoes on the 1st day of August, compared with 1866.	Average condition August 1, compared with last year.	Average condition August 1, compared with last year.	Quantity of timothy, compared with last year.	Average condition of timothy when harvested.	Quantity of clover, compared with last year.	Average condition of clover, when harvested.	Quantity of hay of all kinds, compared with last year.
Maine.....	10.3	10.4	10	13	10.9	12.8	10.9	13.1
New Hampshire.....	10	10.6	8	11.3	11	12.1	11	13
Vermont.....	10	10.1	-----	12	11.7	10.5	10.8	11.5
Massachusetts.....	10.9	10.2	12	12.7	10.5	13	11	13.8
Rhode Island.....	10	10	-----	12.6	9	13.3	8.6	13.3
Connecticut.....	10.8	10.4	9.5	12.8	10.8	13	10.6	13.5
New York.....	9.7	10.1	10	11.5	10.1	11.5	10.5	12.4
New Jersey.....	11.2	9.7	9.6	12.5	10.8	12	10.5	12.3
Pennsylvania.....	10.2	9.7	9.4	13	11.5	11.7	11.3	15
Delaware.....	13	11	10	13	10	12.5	8.5	15.5
Maryland.....	9.8	10	9.2	11	8.3	11.5	9.1	11.1
Virginia.....	9.9	9.2	7.6	11.2	10.2	11.4	10	12
North Carolina.....	11	10	9	10.5	10.7	11.3	11.5	11.4
South Carolina.....	11.5	10.5	9.6	10	10	11	11	10.3
Georgia.....	12	13	12	12	11	13.3	12	13.2
Florida.....	10.1	4	11	12	12	-----	-----	12.6
Alabama.....	11	12.9	12	13	20	11.3	11.4	13.7
Mississippi.....	12.8	11	9.5	10	10	11	10	13.4
Louisiana.....	10.5	-----	11.6	-----	-----	-----	-----	7.5
Texas.....	11	10	10.5	10	12	15	12	11.5
Arkansas.....	11.8	15	13	11	11.2	10	9.8	13
Tennessee.....	9.5	10.8	9.7	11.2	10.3	11.6	10.5	12
West Virginia.....	10.1	10	8.7	11.9	11.4	11.4	11.4	12.4
Kentucky.....	9.5	9.7	9.3	10.9	11	10.5	10.6	11.6
Missouri.....	11.7	10.8	10	12.8	11.9	11.1	11.3	14
Illinois.....	8.9	9.7	8.4	12	12	10.7	11.5	12.8
Indiana.....	9.5	9.7	8.3	12	12.3	10.6	11.9	12.6
Ohio.....	8.7	9.5	7.9	11.8	12	11.8	11.8	13
Michigan.....	9.9	10.1	9	11.7	11.5	11.6	11	12.8
Wisconsin.....	10.2	10.3	9.3	11.9	12.3	11.6	12.1	12.8
Minnesota.....	10.1	10.7	9.4	12.6	12.6	12.6	12.2	11.9
Iowa.....	11.9	10.4	8.9	11.8	11.3	11.2	11	12.3
Kansas.....	12.2	10.6	10.3	10.1	10	9.6	9.7	13
Nebraska.....	13	10.5	10.4	10.7	10.6	12.5	10	14

Condition of the crops, &c., on the first day of August, 1867—Continued.

STATES.	PASTURES.	TOBACCO.	COTTON.	SUGAR-CANE. (Not sorghum.)	APPLES.	PEACHES.	GRAPES.
	Average condition August 1, compared with last year.	Average condition August 1, compared with last year.	Average condition August 1, compared with last year.	Average condition August 1, compared with last year.	Average condition August 1, compared with last year.	Average condition August 1, compared with last year.	Average condition August 1, compared with last year.
Maine.....	12.7	-----	-----	-----	8.1	11.6	9.9
New Hampshire.....	12.5	-----	-----	-----	9	12	10.7
Vermont.....	11.5	10	-----	-----	10.5	-----	11.5
Massachusetts.....	12.2	11.5	-----	-----	9	20	10.2
Rhode Island.....	13.6	9	-----	-----	8.3	12	9.3
Connecticut.....	13.2	10.2	10	-----	9.7	10.7	10.8
New York.....	11.1	9.8	-----	-----	9.3	9	10.1
New Jersey.....	12.5	-----	-----	-----	8.9	18	10.7
Pennsylvania.....	10.9	9.4	-----	-----	8.5	12	9.8
Delaware.....	13	-----	-----	-----	9	30	9.5
Maryland.....	10.5	10	-----	-----	8.8	13.7	9.3
Virginia.....	10.3	9	7	-----	11.5	17	11
North Carolina.....	10.3	9	8.5	-----	10	13	10.5
South Carolina.....	12	10	11.7	10	9	9	9.2
Georgia.....	14.5	12	14.5	10.3	7.7	8.7	9.5
Florida.....	11	3	9.7	10.4	-----	10	6.5
Alabama.....	15	10.4	15	10.7	5.9	5.6	8.7
Mississippi.....	12.5	11.3	13	10	5.8	3	7.1
Louisiana.....	11	8	8	12.2	9.2	3.5	9.7
Texas.....	12	10.4	8	10	11.2	3.1	8.7
Arkansas.....	15	11	9	-----	10	8.6	13
Tennessee.....	12.2	9.7	11	-----	4.3	4	8.5
West Virginia.....	10.2	9.1	-----	-----	12	17	11
Kentucky.....	10.7	8.6	9	-----	12.2	13.5	11
Missouri.....	11.9	10.2	10.4	-----	11	12.7	13
Illinois.....	10	8.9	8.6	-----	9.2	11.5	10
Indiana.....	9.6	9.1	-----	-----	10.6	17	13
Ohio.....	10	8.4	-----	-----	7.6	20	11
Michigan.....	10.2	10	-----	-----	10.4	17	11.4
Wisconsin.....	11.3	10	-----	-----	12	-----	11.2
Minnesota.....	12.3	10	-----	-----	10.1	-----	10.8
Iowa.....	11.3	9.5	-----	-----	11	10.9	11.6
Kansas.....	12.7	10.4	10.1	-----	12.3	12	11.5
Nebraska.....	12.6	9.8	-----	-----	12	20	11.9

Table showing the condition of the crops, &c., on the first day of September, 1867.

STATES	WHEAT Condition when harvested, as compared with 1866.	RYE. Condition when harvested, as compared with 1866.	BAR- LEY. Condition when harvested, as compared with 1866.	OATS. Condition when harvested, as compared with 1866.	CORN. Condition of corn September 1, 1867, as compared with last year.	BUCK- WHEAT Condition when harvested, as compared with 1866.	BEANS. Condition of crop September 1, 1867, as compared with last year.	SOR- GHUM. Condition of crop September 1, 1867.	POTA- TOES. Condition of crop September 1, 1867.	TO- BACCO. Condition of crop September 1, 1867, as compared with last year.
Maine	10	10.1	9.2	9.1	10.5	9.9	9.4	-----	8.4	10
New Hampshire.....	10.7	9.9	9.8	10.5	10	10.2	9.7	-----	8.6	8
Vermont	10.7	10.4	10.2	9.4	11.1	10.3	10	-----	11.1	10
Massachusetts	10	10.1	10	9.8	10.5	10.6	8	12	7.2	9
Rhode Island	9	8.5	9	9	9	8.9	7.6	-----	6.6	10
Connecticut	10.8	11	9.7	10	10.4	10.2	9.6	8.5	7.4	9.6
New York	11.4	10.5	9.5	9.4	10.3	9.9	10.6	9.9	9.1	9.4
New Jersey	12	10.2	9.8	8.6	10.5	8.7	10.2	8.6	7.6	10
Pennsylvania	14	11.2	10.2	10.4	9.3	9.6	9.9	8.5	9.3	9.4
Delaware	15	-----	-----	14	8	-----	12	10	-----	-----
Maryland	11	9.9	10	10	10.7	9.8	10.1	9.8	9.7	9.3
Virginia.....	13.7	10.4	10	9.4	9	8.6	9.5	7.5	10.1	8
North Carolina.....	12.4	10.1	10.5	11.2	9.2	8.9	9.5	9.3	10.6	9.3
South Carolina.....	14	11.7	12	13	15.4	10	12	10	12	15
Georgia	18.5	12.7	11.9	14	20	10	12.7	10.3	12	12.7
Florida.....	-----	8	6	10.8	12.3	-----	8	7	11	12
Alabama	17	12	10.8	13.8	17.5	12.7	11.3	10	12.6	9.5
Mississippi	13	9.4	-----	11.2	18	10	10.4	8	11.6	10
Louisiana	12	10	-----	12	14	-----	10	-----	9	8
Texas.....	6.5	8.2	5	9.8	12.8	-----	10.2	10.8	10.7	9.8
Arkansas.....	13	10.4	11.4	12.5	20	-----	16	14	12	12.3
Tennessee.....	13.2	10.3	10.1	8.9	12.1	9.6	10.2	9.7	9.3	9.2
West Virginia	15	12.1	11.1	11	8.5	9.2	9.4	9	9.6	8.8
Kentucky	13	10.7	10.4	9	7.2	8.3	9.1	8	8.4	7.6
Missouri	13	11.5	10.1	12	10.4	9.9	9.4	10.2	10.5	11.3
Illinois	11.5	10.5	11	11.6	8.6	9	9.5	7.8	8.3	8.9
Indiana	12.7	11.3	10.8	10.9	8.3	8.8	9.7	7.6	8.1	8.9
Ohio	21	12.7	11.6	11	7	7.8	8.7	6.8	7.7	7.7
Michigan	11.5	10.7	10.2	10.7	10.3	9	10.4	8.7	9.2	9.1
Wisconsin.....	13	11.5	12	12	11	9.2	10.4	11.1	9	9.1
Minnesota.....	11.5	11	11.3	13	12	10.6	10.8	11.4	10.5	10.3
Iowa.....	11	11	10.9	11.4	10	9.8	10	9.3	10	9.2
Kansas.....	9.6	10	9.9	10.2	12	10.9	10.6	11	12	10
Nebraska.....	9.4	9.8	9.8	11	11.4	9.3	10.6	10	12.5	10.4

Condition of the crops, &c., on the first day of September, 1867—Continued.

STATES.	COT- TON.	SUGAR- CANE. (not sorghum.)	APPLES.	PEACH'S	GRAPES	HOPS.		STOCK HOGS.		WOOL.
	Condition of crop September 1, 1867, as compared with last year.	Condition of crop September 1, 1867, as compared with last year.	Prospect of crop, as compared with last year.	Amount of crop, compared with last year.	Condition of grapes September 1, 1867, as compared with last year.	Average of hops, as compared with last year.	Condition of crop September 1, 1867, as compared with last year.	Average number for fattening, as compared with last year.	Average condition of same as to weight and size.	Average weight of fleece, as compared with 1866.
Maine.....			7	.....	10.7	11	10.5	11	10	9.4
New Hampshire..			9	11	10	12	11	11	9.7	9.2
Vermont.....			10.3	.....	12.5	9.5	9.5	11	9.8	9.7
Massachusetts....			9	15.2	9.3	8	9.5	10	10	9.2
Rhode Island.....			6.5	10.3	10.6	.....	.....	10	9.6	9.5
Connecticut.....			8.7	10.5	11	10	10	10.4	10.4	9.8
New York.....			8.2	9.2	9.6	9.2	8.7	10.2	10.1	9.3
New Jersey.....			5	25.4	9.6	10	9.5	10.5	10.2	9.6
Pennsylvania.....			7.7	14.9	9.8	9.4	9.5	11	10.1	9.7
Delaware.....			12	30	10	.....	.....	12	10	10
Maryland.....			8.1	14.5	10.1	10	10	10.3	10.3	9.6
Virginia.....	8.6		13.6	20.5	11.4	10	10	9.9	10.2	8.8
North Carolina...	10.1	9	10.9	30.2	10.2	10	10	9.5	10.1	9.7
South Carolina...	15	10	11	14.2	10	10	10	6.9	11	9.3
Georgia.....	15.3	12.1	7.5	8.2	11.7	11	8.3	9.8	11.3	9.4
Florida.....	10	10.8	6	11.8	9	17.5	8	7.7	11	8.2
Alabama.....	14.2	10.3	6.8	6.6	8.9	10	10	8.8	10.4	9.5
Mississippi.....	12.4		7.3	5.5	7.2	5.5	10	9.1	8.7	9.5
Louisiana.....	7.4	12	10	.....	8	.....	.....	8	8.6	9.3
Texas.....	6.5	11.5	6.7	1.5	12	.....	.....	10.1	10.3	9
Arkansas.....	11.8	13.5	9.6	7.1	15	12	20	16.3	12.4	10.8
Tennessee.....	10.9		3.9	5.9	8.4	10	9.5	10.6	9.8	9.8
West Virginia....			13	20.3	14.2	9.7	10.3	11.5	10.5	10.1
Kentucky.....	8.3	6.3	12.5	24.5	9.8	9.1	9.1	10	10.2	9.5
Missouri.....	10.1	9.3	10.8	19.5	11.6	9.8	10.5	13.8	10.8	10
Illinois.....	10.8		9.6	19.4	10.8	10.5	9.3	10.7	9.8	9.5
Indiana.....			10.6	34.1	14.1	10.2	10.4	10.8	9.8	9.8
Ohio.....			8.2	20	11.6	9	8.7	11.1	9.7	9.3
Michigan.....			10.2	32.6	12.4	9.6	7.5	11.4	9.9	9.1
Wisconsin.....			14.9	.....	11.6	13.6	12	11	9.4	9.1
Minnesota.....			11	7.5	10.5	12.6	11.5	12	10.1	9.3
Iowa.....			11	28.2	12	10.5	9.5	9.9	9	9.1
Kansas.....	9.3		12.4	17	11.8	11.1	10	12.4	10.7	9.2
Nebraska.....			12.7	20	12.1	10.5	10.3	13	11.3	10.1

THE PACIFIC STATES AND THE TERRITORIES.

Returns from the Pacific States and Territories, while too limited to warrant a general estimate of the leading crops, indicate the following figures, using 10 as the standard for last year, as in the preceding tables :

California.—Wheat, 11.5; rye, 10; barley, 9.5; oats, 9; corn, 9.8; hay, 10; potatoes, 9.5.

Oregon.—Wheat, 10; rye, 10; barley, 8; oats, 9; corn, 11; hay, 8; potatoes, 9.

Nevada.—Wheat, 15; rye, 10; barley, 10; oats, 10; corn, 10.2; hay, 15; potatoes, 10.

Washington Territory.—Wheat, 9.8; barley, 10; oats, 10.4; corn, 9.8; hay, 8; potatoes, 11.2.

Dakota Territory.—Wheat, 9; rye, 10; barley, 10; oats, 10; corn, 8; hay, 10; potatoes, 8.

Colorado Territory.—Wheat, 12; rye, 10; barley, 10; oats, 12; corn, 11; hay, 12; potatoes, 11.

Utah Territory.—Wheat, 10.5; rye, 10; barley, 10; oats, 10; corn, 9; hay, 11; potatoes, 11.

EXTRACTS FROM CORRESPONDENCE.

EARLY BOUGHTON OR TAPPAHANNOCK WHEAT.

The following extracts show the success of the Early Boughton or Tappahannock wheat in the several localities mentioned :

Giles county, Tennessee.—The Tappahannock wheat did not arrive until the 9th of October, was sown on the 10th, and ripened two weeks before the other, and yields all of one-fourth more of excellent A No. 1 wheat. I hope and believe it will prove a boon to our section.

Franklin county, North Carolina.—Robert Perry, of this county, seeded two and a half pounds of Tappahannock wheat, received from the Department of Agriculture, on a piece of land 20 by 20 yards, and realized eighty pounds from it. It was seeded early in November, on land not well prepared for a favorable result, and was injured by rains. It weighed sixty-two and a half pounds to the measured bushel. It is eight or ten days earlier than the wheat in cultivation here.

Baltimore county, Maryland.—The Tappahannock wheat has done exceedingly well, ripened early, and I could not see one head injured by the midge. The Arnautka spring wheat is injured by the midge, probably owing to late seeding. About one-fourth is destroyed. This wheat has a remarkably fine appearance. I will give it another trial.

Clarke county, Virginia.—It is the practice here to sow every kind of smooth wheat later than the bearded varieties, the smooth wheats being more obnoxious to the Hessian fly. I think the injury the white wheat sustained was due to late sowing; having seen some fields of the Boughton wheat seeded in September, which made very heavy crops of fine quality.

Windsor county, Vermont.—On the 1st day of October, 1866, I sowed, on alluvial soil, one quart of Early Boughton wheat. On the 6th instant I reaped it, and on the 17th had it threshed and cleaned, and had ten quarts very nice and good berry. But for an injury last fall from cattle, I should have had twelve quarts, which is, allowing one and a fourth bushels of seed to the acre, above an average for this State, and in quality superior to any I have seen.

Columbia county, Pennsylvania.—I received from the Department of Agri-

culture last fall one quart of Early Boughton wheat, which I sowed September 20, broadcast, on about one-twentieth of an acre of ground from which I had taken a crop of early potatoes. It ripened one week earlier than other varieties, and the yield was eighty-two pounds clean, screened wheat, of a very superior quality. If it continues to do anything like as well, I shall consider it a valuable acquisition.

Washtenaw county, Michigan.—The Tappahannock wheat sent me last fall was sowed about the 1st of October. It ripened nearly three weeks earlier than the Treadwell, sowed at the same time and on the same soil. From the quart sent me I have raised seventy-four pounds of good, clean wheat, which will weigh over sixty pounds per bushel.

Lenawee county, Michigan.—I sowed one quart of Boughton wheat on the 29th of September, 1866, and threshed out one bushel of very plump, white wheat from the quart sowed.

ARNAUTKA SPRING WHEAT.

New London county, Connecticut.—I received from the Department of Agriculture, in the spring of 1867, one package of Arnautka hard spring wheat, which was sown the 13th of April in drills. One part was put upon soil inclined to a sandy loam, exhausted by previous cropping. The green sward, having been ploughed the fall previous, was sparingly manured with horse manure and ashes ploughed in, and a little hen manure scattered along in the drills near the grain, and the weeds afterward kept down by hoeing. The other parcel was put upon a more compact soil, in better condition, with no manure save a little in the hills, as the other, and received no hoeing. That on the more sandy soil did the best. Both did well, and were ready to harvest by the first of August, and, by estimation, yielded twenty bushels to the acre of very nice-looking grain, and very free from smut. It is a valuable grain for this locality.

Clinton county, Indiana.—Last spring I received from the Department of Agriculture two packages of Arnautka, or hard spring wheat. This I sowed broadcast on common clay land, at the rate of one and a half bushel per acre, on the 16th of April. The season was backward and very unfavorable; the native wheat in this locality made only about one-fourth of an average yield. I harvested the Arnautka wheat on the 20th day of July; it produced at the rate of twenty bushels per acre, being considerably more than an average yield for our native wheat. It was not attacked by rust, weevil, or fly, and produced rather larger berry than the sample received from the department. It is pronounced by wheat-growers in this neighborhood a success.

THE SANDOMIRKA WHEAT.

Jefferson county, New York.—I received in 1866 from your department a small sack of Sandomirka winter wheat, imported from Odessa. I prepared five and a half square rods of ground which had never been manured, and had raised three crops after being cleared up from a forest. I sowed the wheat in drills, two and a half inches deep, the last of August, 1866. It stood the winter through without any injury, and matured and ripened so that I harvested it on the last day of July, 1867. The product was forty-seven and a quarter pounds of fine, plump wheat. The weevil did it some injury, but nothing serious. I attribute the injury of the weevil more to the small space covered than to the kind of wheat. The spring wheat usually found in this country was quite as much injured by the weevil as this Sandomirka wheat. From my experience thus far, it seems to be well adapted to our soil and climate, and preferable to our common spring wheat.

THE COTTON CROP.

We give a few extracts from letters of our correspondents in the several cotton States, showing the condition of the crop in their respective districts on the 1st instant :

Edgecomb county, North Carolina.—Last year the cotton crop of this county was something over sixteen thousand bales. I think this year, with fully one-fifth more land planted, the crop will not exceed that of last year.

York county, South Carolina.—Cotton was but little injured by the drought, and present appearances indicate three times the crop of last year. But the weather just now is entirely too hot for cotton; the bottom crop may rot.

Butler county, Georgia.—On the 1st of August cotton promised a most abundant yield; but it has rained almost every day during the month, which has greatly damaged the crop. This being the principal month for making cotton, the crop will not be as large as was anticipated. There is also some complaint of the "boll-worm;" and, in a few instances, rust has damaged the crop. With all this, however, the crop will almost certainly be double that of last year, and, should the weather be entirely suitable the balance of the cotton making season, it will exceed the above amount.

Jackson county, Florida.—The common caterpillar is now at work on the cotton plant in this county. Their work will be complete between the 10th and 20th of September; the next crop of worms, if hatched, can do no harm. There will be made and gathered an average of bottom and middle crop, as the plant is now maturing a very full crop of fruit, and, as I am advised, will yield fully fifty per cent. above that of last year.

Cedar Keys, Florida.—The cotton is looking well now and promises a large crop; yet the cotton-worm is making its appearance, and may sweep away the whole crop.

Barbour county, Alabama.—The cotton crop of this county is, up to this time, very promising; true, the rust is apparent in some localities, but I hear no loud complaints of its being extensive; nor is much said of the caterpillar. With a continuance of favorable seasons and a late fall, the yield will be larger than perhaps ever known before. As far as my information extends, the crops in the contiguous counties are, as a general thing, quite promising.

Marion county, Mississippi.—The third generation of the army worm is now at hand, and the destruction of the late cotton is almost certain. The early, or first planting, it is supposed, will yield about one-half of a crop. Incessant rains in the spring prevented the planters from labor; consequently there is a large portion of the cotton late.

Pike county, Mississippi.—Since my last report much discussion has prevailed as to the cotton-worm, about which the most anxious fears have filled the public mind. The report is now current that the third brood of the worm is making its appearance and seriously injuring the cotton. Were it not that the cotton is from two to four weeks later than usual, the worm appearing at this time would do but little injury; but the cotton is now in full growth; and the middle cotton, from which the main crop is derived, is not sufficiently matured to be safe; so, should the worm equal the reports, there will not be more than half a crop; but I am somewhat skeptical as to the worm being in as large numbers as reported. The crop is unusually promising, and could it have escaped the worm and late frost would have doubled that of last year.

Claiborne county, Mississippi.—The third crop of the army worm is now appearing in countless numbers, and as this crop is said to be the devouring crop, much anxiety exists. There is much cotton in condition, as to maturity, that can be almost ruined now by the caterpillar, and all of it must suffer a third should the worm pursue its usual course of devastation.

Tensas county, Louisiana.—The cotton crop is backward, but at this time is making rapid strides towards perfection. I never knew cotton to improve so rapidly before. But the third generation of worms is at hand and at work. Our only hope is that they will not be numerous enough to eat up the crop. It was observed by many that a large proportion of the worms in August fell on the hot ground and died before maturing; and then a good many of them which did go into the chrysalis state were destroyed by the ants. A few planters "wormed their crops"—one man killed as many as three barrels of worms with only a few hands.

Jackson parish, Louisiana.—Since my last report a material change has occurred in the cotton prospect, caused by an unusually early appearance of the caterpillar, on or about the 6th of August, since which time the work of destruction to the cotton plant has gone on rapidly; the result is a diminution of one half in the prospect at present compared with that of the 30th of July.

Lamar County, Texas.—Cotton, if the present prospect holds out, will be more than an average yield.

Union County, Arkansas.—Apprehension is felt in regard to the army worm. Reports are in circulation that they have commenced their work of destruction in the county, but I have not observed them among my crop. A great deal of cotton is very small—a drought of five weeks has not helped it; but if we should have a late fall and no worms, fully as good a crop will be made in this county as ever, for the number of acres in.

Giles County, Tennessee.—Cotton has come out very much since my last report—has an unusual amount of squares, &c. Should the season continue favorable, we expect to make from 1,000 to 1,200 lbs. of seed cotton per acre.

RESOURCES OF OREGON.

Salem, Oregon.—A large oil well is now under process of erection in Salem. One thousand acres of flax were sown last spring in Marion county to supply the oil mill with the seed. Poor as this season has been here, the flax crop is excellent. The price of the seed is \$1 50 per bushel in Salem. The oil is worth \$1 87½ per gallon, retail rates.

The great discoveries of minerals on our eastern borders are of national importance. The mine of tin lately found on the Owyhee, in Oregon, is rich; and the quantity may be estimated by millions of tons. Iron, lead, coal, salt, silver, gold, and cinnabar are to be found in nearly all the western slope of this coast region. Idaho, Oregon and Washington have a goodly share of this mineral wealth. The rapid approach to our shores of the Union Pacific railroad gives new life and energy to all classes of persons here. The vast and untold bodies of fir, spruce, cedar, and hemlock, in Oregon and Washington, will soon become of use and value to disseminate to regions which are measurably destitute of timber. Our coal mines are very extensive and of good quality in western Oregon.

Sheep raising bids fair to become an important branch of agriculture on the western slope of this continent. Sheep are very healthy, and the wool is excellent. Crosses of the South Downs and Merinos sell at \$1 10 per head in this county. Some six woollen factories are now in good running condition, or in process of erection in western Oregon.

AGRICULTURE IN COLORADO.

A correspondent in Pueblo county, Colorado, writes as follows upon the agriculture of that Territory: "Permanent settlement and agricultural operations first commenced here in 1860, but little progress was made until two years later, since which time no country has ever improved faster; every available foot of land in this county being now occupied and cultivated as closely as in any part

of the United States. Every foot that can be watered is being turned by the plough. There are now fifty-three ditches in use in this county, their aggregate length being 147 miles, at a cost of \$91,400, and if the cost of dams, breakages, repairs, &c., was estimated it would swell the amount to over \$100,000. The actual number of acres already ploughed, is 21,150. Considering the insolation and newness of the country, and that not a foot can be cultivated without being irrigated, I think it will be hard to find a parallel. On the first day of June, 1867, there had been entered and pre-empted at the land office in the territory 400,000 acres, and a little over 100,000 are cultivated by "Spanish grant" holders; and about 50,000 acres are cultivated where the land is unsurveyed and unentered. So that there are nearly 600,000 acres now under the plough in the Territory.

CHICKEN CHOLERA.

Leake County, Mississippi.—In the May and June report, 1867, I find on page 216, an inquiry about "chicken cholera." The disease has been here for the last twelve months. I have used "Barton's preventive for hog cholera," (omitting the salt,) and find that it acts like a charm. Mix this medicine with corn-meal two or three times a week. Any medicine that will prevent "hog cholera" will prevent the "chicken cholera." The spirits of turpentine is a cure if taken in time, and no doubt would be a preventive. These two preventives, given in moderation, I recommend; the turpentine in quantities of from two to five drops to the chicken.

Fremont County, Iowa.—For the last two years my chickens have been dying of cholera; even the turkeys have died the same way. When I notice the hens begin to droop and look sleepy, I give them three or four tea-spoon's full of strong alum-water, and repeat the next day. I also mix the feed, (say corn-meal,) with strong alum-water, feeding twice a day for two or three days, afterwards, once a week. Since I have practiced the above I have not lost any.

A correspondent from Spring Valley, Iowa, sends us the following remedy for chicken cholera: "Take, say two eggs, a table-spoonful of finely pulverized alum, and a sufficient quantity of flour to make a thin paste, and force the chicken or turkey to swallow a portion of the mixture, and there are two chances to one that it will recover. I have used this remedy for two years with good success. I have also found it necessary, as a preventive, to use more or less alum in their feed, once a day when the disease prevails. Fowls should never have access to slop or swill-tubs, or any other kinds of sour food."

GRASSHOPPERS.

Great Salt Lake City, U. T.—This summer, in the northern portion of the Territory, the citizens have been greatly harassed by grasshoppers. Eggs were deposited in Cache county by some that came last fall. Those eggs germinated this spring, and millions of grasshoppers appeared. The towns of Logan, Hiram, and Wellsville, have had their field crops totally destroyed; some other of the towns in that county have suffered some. About six weeks ago many of them travelled into the Bear Lake region, (north,) but returned and have been travelling south, visiting many places in their journey. The settlements in Weber county have suffered. In Davis and Salt Lake counties wheat, &c., was rather too far advanced for them, but corn, carrots, cabbage, potatoes, &c., they attacked with a gusto.

On Saturday, July 28, the air was literally filled with something with life, too high for the naked eye to discern, but the glass revealed that they were grasshoppers. In the evening many of them had located in the southeastern portion of this city, and on Sunday, 29th, they commenced to work. Since

then they have spread, and apple, pear, and plum trees appear bare. Through their work corn is ruined and much damage is done.

The foremost forces have gone south, but we are still having fresh recruits from the north. I hear that they have most all left the northern counties of this Territory and are coming south. The vanguard is at Farmington, about eighteen miles north of here, so if they will hurry along we shall be able to bid them good bye, I hope, before they want to leave their eggs with us.

With all the drawbacks of a late spring and the grasshoppers, we shall raise sufficient breadstuffs and a little to spare, and a goodly quantity of potatoes.

Page county, Iowa.—The grasshoppers have just made their appearance here, and are very numerous; no damage has been done by them yet. Their presence will deter me from sowing fall wheat. This is much to be regretted, as I have imported the first grain drill into this part of the country, and desired to test its superiority over the broadcast method. If drilled wheat would stand our winters, it would be the greatest improvement we could adopt.

Adams county, Iowa.—We are now suffering from grasshoppers. They appeared August 27, in clouds, and settled all over this part of the country. They are destroying buckwheat, turnips, potatoes, corn, &c. They will probably kill all the crops named except corn, and may do much damage to that, particularly the late fields.

Cherokee county, Iowa.—The grasshoppers appeared in great numbers August 28th and 29th. They have eaten up the buckwheat and injured the corn, devouring the leaves and eating into the ends of the ears.

POTATO BUG.

Jefferson county, West Virginia.—What is known here as the "potato bug" has appeared in some parts of our county, but not in as large numbers as I have seen them. They have been eating the tops of beets in our garden as greedily as they eat the potatoes. We have kept them off pretty well by dusting the vines with unleached wood ashes, applying it as often as the bugs made their appearance. We dusted the ashes on the vines and over the bugs, and they would soon leave. Whenever they reappeared we repeated the dose.

De Kalb county, Illinois.—The potato crop has been somewhat injured from the invasion of the potato bug. Early varieties are extremely fine; and while I write a heavy rain is falling, which will stay the ravages of the bug on the later varieties. These bugs are highly poisonous; the common barn-yard fowls will not eat them; it has been said by many that they would, but it is a mistake. The grouse or prairie chickens have been found dead with the bugs in their crops, which is evidence that they were killed by them. Sportsmen will have need to examine into the matter, as the flesh, if eaten, would poison in return.

Putnam county, Illinois.—The potato bug is making fearful ravages with the potato crop here. Many fields are entirely destroyed.

Webster county, Iowa.—The potato bug has made its appearance for the third time this year on some fields, and unless attended to promises to do great damage before potatoes mature. My experience is that they can be successfully guarded against by destroying them in their first attacks on the potatoes, but it frequently requires time and perseverance.

SILK CULTURE IN CALIFORNIA.

The following extracts from a recent letter written by L. Prevost, esq., of San José, California, to this department, will show something of the extent of the silk interest in that State:

"It is my intention this year to make an exhibition of the silk business at the fairs—everything from the beginning to the end—and, what will attract more attention, I am doing all I can to have Mr. Newman and son present with the California silk reel, reeling silk from the cocoons before the public, and Mr. Newman himself with a loom, manufacturing. The great interest that is now manifested in our State in silk raising has induced me to agree to be present at the State fair, and at the district fair of the San Joaquin valley at Stockton, and after these at our own fair at San José. It is also agreed that at every fair I will address the people on the subject; this will afford me great pleasure, as my object is to be useful to our country. * *

"I now feel very proud to see my humble efforts appreciated, and to know that the publication of my manual has determined so many to begin silk raising, and especially that all those to whom I have sent eggs in different parts of the State have so completely succeeded, and that none of them have had any disease among their worms. I have for a long time demonstrated the superiority of our climate for silk growing, but the fact that so many persons who never kept worms before, and at such great distances from each other, have all succeeded, proves beyond possibility of doubt what I have so often said. So great is the interest now manifested that a very large number are preparing to engage in this business the next season.

"Just a month ago I was in Sacramento, and think how pleased I was to find that over three millions of mulberry trees were growing there finely in different places. And I found, also, that Mrs. Haynie had a fine crop of cocoons—the finest I have ever seen yet. The question is now settled that the mulberry tree and the worms succeed finely all over our State; but by what I see Sacramento will be the first silk district of California. I think that for the next season they will have there food enough for ten millions of silk worms.

"Previous to coming to California, in 1849, I lived twelve years in the State of New York, and know all about the multicaulis operations there. That was merely the work of schemers to make money. It is impossible to raise silk there profitably, for several reasons, the principal of which are that the climate is not suitable to the worms; and during the time of feeding in the summer there is rain from time to time, and the storms of thunder and lightning destroy the worms. I was present at an attempt made on Long Island, and with great care the worms succeeded very well till a few days before they would have made their cocoons, and then came a very heavy storm that in one afternoon killed them all. The high price of labor is only a secondary question if the climate is suitable, as here, where we have everything favorable, our fine climate has enabled me to simplify the culture so completely so that one person can raise and take care of as many worms as eight persons would in France or Italy. * * *

"Such are our facilities, and such the adaptation of our climate, that in silk growing California need not fear competition from any quarter, and will soon be able to produce and manufacture silk to supply all the other States. In furnishing healthful employment, social comfort, refinement, and personal independence this is superior to every other domestic occupation yet discovered.

"L. PREVOST."

BROOM-CORN CULTURE.

A correspondent in Schenectady, New York, gives the following history of broom-corn culture in that State:

"Previous to 1827 the culture and manufacture of broom-corn in this State were monopolized by the United Brethren of Shakers, at Miskaynna, in this county. In 1827 they induced Mr. Benjamin Willard, of this city, to plant a

few acres on one of the islands in the Mohawk river, agreeing to take the brush at a fixed price per pound, and furnishing him with a rude implement for scraping the seed by hand, each head separate. Mr. Willard prepared the brush and notified them when it was ready for delivery. Two of their number came to weigh and receive it, but when they saw the great length of the brush they were amazed, and refused to ratify their engagement, thus leaving Mr. Willard with what was supposed to be useless stock on hand. Mr. Willard thereupon determined to make it up into brooms. Deeming the mode then in vogue, of holding the twine by the feet and winding with the handle in hand, too slow a process, he invented the broom winder, now in use, and made better brooms in much less time, thereby working an entire change in the broom-corn culture and the manufacture of brooms. The cause of the excellence of broom-corn in this vicinity is the uniformly dry and warm nights during the summer months, owing to the absence of dew until near midnight, probably attributable to the said plains on the hills surrounding this valley.

"Culture.—The ground is carefully ploughed, harrowed, and rolled, and between the 1st day of May and the middle of June planted in rows by a horse-power seed-planter. When the plant is about two inches high it is thoroughly weeded; when about six inches up the earth is removed from the sides of the rows with a scarifier, and the space between the rows made friable; and when the plant is about two feet high the earth is thrown to the rows with a double mould-board plow, and it is then left for the brush to develop. In sixty days from planting the brush is fully out, and it is then broken about two feet from the lowest branches, and after one day it is cut with a stem of six or eight inches, and taken to the comb or thresher (two revolving spiked cylinders) driven by power, and the seed removed; thence it is carried to dry-houses and placed on slats or poles in tiers with one foot space. After being dried it is sized and packed into bundles ready for manufacturing into brooms.

"Broom-corn farmers prefer cuttings when the brush is green, as the green broom is more salable in the New York market than the red (ripe) brush. Experiments have shown that they are equally durable. Red or ripe brush exhausts the soil more than when harvested early. The first scrapings of seed are only fit for manure; the second is half as good as oats, and the third makes an excellent feed for horses and cattle, and is found to be a superior feed for milk cows in the winter months. The haulm when properly cured and housed, makes a good fodder. One bushel of good seed will plant ten acres of bottom land.

"The brooms in use in 1827 sold for \$2 25 per dozen; in 1830 the Schenectady brooms brought \$2 50; and now the best brooms sell at \$1 75 to \$2 per dozen. Ripe seed is now selling here for \$7 per bushel. Brooms are daily sent from this city to all the States, Canada, West Indies, and Europe, and the demand is increasing. A quantity of brush manufactured here is grown in the States of Illinois and Indiana. In most of the western States, and in Pennsylvania, the plant will not flourish."

EGYPTIAN COTTON.

The following letter gives a favorable account of the Egyptian cotton seed distributed last spring by the department:

Warren county, Miss.—I received, late in April last, two packages of Egyptian cotton seed, one of which we planted in this vicinity; the other I distributed in small parcels among some ten or twelve planters in this county, five or six in Texas, and one in Florida. All heard from report very favorably. Mr. Fletcher, an old planter, has had several bolls opened, a few

locks of which I send you as a specimen of the first Egyptian cotton grown in this country. Mr. F. thinks that it would make 1,200 to 1,500 pounds per acre under favorable circumstances, and the finest lint and best staple he ever saw. The stalks are of good size and well limbed, many bending under the weight of bolls and more squares forming. He counted two hundred bolls on an average stalk; it may still further improve by cultivation when better known and acclimated. The planters are now convinced that, although planted so late, it will mature in this climate, latitude $32^{\circ} 20'$, and may be acclimated throughout the cotton region. A few stalks were topped with promising results.

SAMPLE COTTON FROM GEORGIA.

MADISON, MORGAN COUNTY, GEORGIA.

September 1, 1867.

DEAR SIR: I have the honor to transmit herewith my report for September.

I am happy to be able to make a favorable report this month. I have been in different parts of the county, talked with a great many practical, sensible planters, and it seems to be the general verdict of all that Morgan county has better crops of cotton and corn than has been known here in fifteen years. The acreage planted is no doubt much less than in former years, owing, in a great measure, to the scarcity of stock, laborers and capital. The boll worm has made its appearance in some parts of the county, but not in sufficient numbers to do much damage.

I send to the department a small bale of cotton.

Respectfully, yours,

B. H. TRUE.

Hon. J. W. STOKES,

Acting Commissioner of Agriculture, Washington, D. C.

Accompanying the above note we received a miniature bale of this year's cotton, put up in the form of the large bales, weighing four pounds, and bearing the following inscription: "Presented to the Agricultural Department, Washington, D. C., by B. H. True, Madison, Ga., August 30, 1867." The bale has been deposited in the museum of the department.

THE COTTON WORM.

We give place to the following letter upon a subject which is of deep interest to cotton growers at this time:

PIKE CO., MISS., August 31, 1867.

DEAR SIR: In compliance with your request, I herein give the result of my observations on the cotton worm; but as they were confined to the third generation, it would possibly be as well to give also a brief account of the first appearance and progress of the two preceding generations. The first notice of the worms was in the latter part of June or early in July, when they appeared in small patches in the fields. There was considerable controversy then whether they were really the cotton worm or the so-called grass worm, but the second brood coming about the latter part of July, convinced the most skeptical of the melancholy fact that they were the genuine cotton worm. The third generation commenced eating on the 25th of August. * * *

I think the last generation, coming in such numbers, eat the cotton before the majority arrive at maturity, but the few that do mature, finding no cotton upon

which to deposit their eggs, lay them on trees, grass, &c. The cold weather soon sets in and prevents their being hatched, and it is not until the warm days of spring come that the worm comes out. The number of worms hatched would be necessarily small, as numbers of eggs would be lost from various causes, cold, &c. * * * The moth or fly belongs to the nocturnia tribe of the moth family. They commence their flight at sundown or a little before, and continue until 10 or 11 o'clock, darting with a quick zigzag motion from one stalk to another, nearly always selecting the tallest and most vigorous plants on which to deposit their eggs. I have not been able to form any correct estimate of the number of eggs laid by one individual, but have counted nearly 500 squeezed from one. * * *

On the 5th day of this month I placed ten well-grown worms in a vase and kept them well supplied with food. On the 9th and 10th they quit eating and seemed indisposed to move. On the 10th and 11th they commenced webbing by drawing a web from one side of a leaf to the other very tight, which caused the leaf to bend or curl a little; they then drew another a little tighter, and so on until the leaf was bent so as to form a tube, inside of which they placed themselves and lined it with a fine delicate web. Some I did not allow to have a leaf; they suspended themselves from a stem and commenced a slow spiral motion, and in about twenty-four hours had assumed the pupa state, being enclosed in a horny covering, through which the rudimentary wings and legs could be seen; those inside the leaf undergoing the same changes. * * * On the 17th the fly emerged from the pupa state, but was weak and hardly able to fly for about twenty-four hours. On the 20th, and possibly 19th, they commenced to lay, and on the 24th the first worms made their appearance, but were too small to be seen without the aid of a glass. They grew very slowly for the first three or four days, but after that very rapidly, eating several times their own weight every day. They seem to eat more in the evening and in the morning than any other time; in fact, it is rare to see them eat during the day. They have now, the 1st of September, almost attained their full size. I think my dates and figures are correct, as I took every precaution. The stalk of cotton on which my flies laid their eggs grew in the garden until the first of this month, when I transplanted it to a jar, since which time it has been in the house and under a mosquito bar where all the flies and worms were kept. When I put it in the jar I brushed and examined every leaf, and if there had been any eggs on them they would have surely hatched before the 20th, or certainly before the 25th. I allowed no one to go into the room.

I think if there was any systematic course pursued by the planters, the cotton could be in a great measure protected. Suppose the planters in every neighborhood should keep a strict look-out in the spring, and as soon as the first worm appears give the alarm, and then examine and destroy all that could be found, continuing the examination from week to week and destroying all while worms, or as soon as they are webbed up. I think they could be all killed in this way, or at least held in check. It would be useless for one planter to do this, as the worms would fly from one place to another, but if all would act together some good could surely be done. We know the fly lays at least 500 eggs; now for every worm of the first generation destroyed we cut off 250,000 from the third. The labor of killing the worms is not as great as it would seem at first sight, as they are not scattered over the field, but are found in patches until they increase so as to cover all. There are several other peculiarities of the worms I have neglected to mention; one, that when touched, instead of curling up, as most worms do, they suddenly contract at the two extremities and spring several inches. My ideas may be wrong, but the figures are not.

Very respectfully,

JAMES M. FERGUSON.

THE GRASSHOPPERS.

A correspondent at Pleasant Ridge, Kansas, sends the following sketch of the western grasshopper or locust :

"These grasshoppers, or mountain locusts, as many call them, made their appearance in the western part of Kansas late in August, or about the beginning of September, 1866. The first intimation had here of their approach was the delay of the eastward-bound train from Fort Riley and Manhattan on account of the immense numbers of insects crushed on the track, thereby destroying the friction of the driving wheels. About the 27th of the same month they made their appearance in eastern Kansas, progressing at the rate of from five to ten miles a day, or according to the velocity of the wind in the direction they travel. Their general course seemed to be from the northwest to the southeast. A contrary wind greatly impeded their progress, and when a strong breeze had to be overcome, they could not make any progress at all in their favorite direction, but generally remained on the ground rather than attempt to proceed, and spent their time in consuming everything accessible in the vegetable line.

"They travel in the air like bees, some flying at an immense height, as can be seen on a clear day by looking toward the sun. When first appearing in any certain locality it is in the manner of a cloud, the insects descending to the earth like dropping rain. They commence at once devouring all vegetable substances in their way, showing, of course, a preference at first. Vegetables possessing the property of sweetness in any great degree, as green corn, sorghum, etc., escape till all others in the vicinity are consumed. But everything of an acid or sour taste, as cabbage, or rhubarb, (pie-plant,) as well as bitter and even hot substances, as tobacco, and red or cayenne pepper, are especial favorites. The tenderest vegetation is always destroyed first. Our fine crops of fall wheat were completely eaten up in the space of two or three hours.

"This insect is one of the varieties of the locustidæ and is doubtless the most destructive one known in this country—not only on account of its habit of appearing in such immense numbers, but because of its exceeding voraciousness. It is known to eat nearly everything of the vegetable kind, even to the dry bark on trees, and dry lint of seasoned fencing plank, as well as dry leaves and paper, all kinds of cotton goods and woollen clothing, and I have even seen a flock of sheep literally covered with them, devouring the wool.

"Soon after these insects came upon the ground they concentrated along the roads and upon any bare earth they could find, preferring the short vegetation common to such places to the hard prairie grass. In such situations and in cultivated fields the most of their myriads of eggs were deposited. They continued laying till the severe winter weather killed them. The eggs were deposited to the depth, generally, of one inch ; although in loose earth where vegetable roots were found some were placed as far down as ten to twelve inches, according to the length of the root, which was followed down and devoured, the grasshopper emerging after having laid its eggs.

"On north hill-slopes the process of hatching was much retarded. It was supposed by the people generally that the severe winter would utterly destroy the posterity of these creatures in this vicinity ; but it did not, as the developments of spring fully testified, though perhaps not more than one-fourth of the eggs withstood the weather and produced grasshoppers. Some of them commenced hatching as early as the last of February, when there were a few warm days which brought forth those lying on the top of the ground. In March the weather was so severe that a large proportion of the remaining eggs perished, the thermometer frequently indicating 18° below zero. Judging from the voraciousness of those that did appear, I doubt not Kansas would have been made a perfect desert if all had lived.

"About the 10th of April the young grasshoppers began to appear in myriads, and farmers grew alarmed. Some, however, went on with their work, remembering that 'it is God who giveth the increase;' while others showed a disposition to wait. I was among the latter, but the former course resulted favorably in most localities, though in Salt Creek Valley, where the best farms of the State are located, not only are the ordinary grains devoured, but the finest timothy and blue grass meadows are entirely killed out. Farms lying next to timber and brush, however, fairly escaped, owing to the supply of vegetation thus afforded, and the constant fright given to the insects by workmen. When once driven from a place they scarcely ever voluntarily return, as I demonstrated this spring in saving a garden and potato patch. This was done by taking bushes and driving the grasshoppers out at about 11 o'clock a. m., and again at near sunset. They are very destructive during the night, and should always be driven off before sunset.

"I first noticed these insects on the wing this season on the 27th of June at Fort Leavenworth, when I saw a large number above the tops of the trees flying off in a southeasterly direction. Upon leaving the egg they are of a milky white color and very tender. When they first began to appear in the spring the cool nights destroyed many. Indeed, during the entire time they have been constantly dying by millions; those that remained alive devouring the dead carcasses with the utmost avidity.

"No general damage has been done in the State this year by the grasshoppers, but some localities have suffered extensively. As before remarked, as soon as they had developed wings they left us, apparently governed in their course by the wind. We are now quite free of them, and nearly as good crops will be raised as usual. It is thought here that they are natives of southwestern Texas and of Arizona, where these doubtless came from.

"Yours, respectfully,

"W. F. GOBLE."

ABORTION IN COWS.

The following has been received from A. Loomis, of Little Falls, New York, who deems Dr. Parker's views on the "disgusting and filthy practices to increase their milk," as charged upon dairymen, to be incorrect and slanderous:

"In your monthly report for March, under the head of *Abortion*, you quote from Dr. S. J. Parker, of Tompkins county, New York, his views of the causes of that scourge of the cheese dairymen in this region. The doctor evidently knows nothing about it, and has formed his facts to suit his theory. Calves are not killed before they have sucked; and cows are not doctored or drugged to increase their milk. The Farmer's Club of this place has for several years past made this subject a speciality. The investigations extend to thousands of cases, and the correspondence with intelligent and observing farmers, who have seen and suffered from the disorder, and with men of science, has been long continued and extensive, endeavoring to find a cause or a cure. The State Agricultural Society has now undertaken the investigation, and has procured an appropriation from the legislature, and is about to send several scientific men into the dairy regions to make a thorough investigation, in addition to that of the *Farmer's Club* of this place."

FROM DENMARK.

W. Marsh, esq., consul at Altona, writes to this department, under date of July 27, as follows:

"Nearly all the early kidney potatoes were affected, and now that the round

ones are coming in we see signs of the disease in them. The weather for the last thirty days has been rainy, and the late hay and clover crops have been gathered in very bad condition.

"Rye and buckwheat look well all over Holstein; both promise a heavy crop if the weather comes favorable to gather them.

"The disease called trichina still lingers among swine in parts of Schleswig-Holstein, and causes sickness and death to all who eat the flesh in a raw condition.

"There is no rinderpest, I believe, within this district at present, although one hears of cases occasionally in the interior of Germany, particularly southward; but here, where the heaviest and greatest number of oxen are fattened for the English market, the disease has not appeared."

METEOROLOGY.

JULY AND AUGUST, 1867.

Correction—By an oversight in our July number, the table was headed "July;" it was for *June*, only.

A prediction.—The following note was received by due course of mail, soon after its date, and was preserved as requested. It will be seen by examining our table and the succeeding notes for August, that the cold wave exceeded in extent the writer's calculations—extending over the eastern and middle States, and away down south, as well as over the northwest:

"BOWLING GREEN, OHIO, *July 25, 1867.*

"DEAR SIR: From observations made by me on the electric and magnetic currents, followed by a change of air, I predict a cold current of air through this northwest country between the 27th and 30th of August, proximo. I think there will be frost in some places, unless clouds intervene. Please keep this note until the 30th of August next, and see if I am right in the prediction.

"I remain truly yours,

"JOHN CLARKE.

"HON. J. W. STOKES,

"*Acting Commissioner of Agriculture.*"

On August 31, Mr. Clarke wrote: "The expected electric magnetic current passed here at about 2 a. m. of the 28th, followed by other and similar waves, and succeeded by northwest winds, and on the morning of the 30th we felt a frost."

JULY AND AUGUST, 1867.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and amount of rain, (in inches and tenths,) for July and August, 1867, at the following named places. The daily observations were made at 7 o'clock a. m. and at 2 and 9 p. m.

[Compiled in the Department of Agriculture from the reports made by observers for the Smithsonian Institution.]

States and places.	JULY, 1867.						AUGUST, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MAINE.												
Steuben.....	3, 16	84	31	49	64.5	5.60	21	80	31	50	66.4	8.80
Lee.....	16, 24	86	27	50	66.5	3.55	8	87	31	52	65.7	5.10
Williamsburg.....	15, 16, 24	82	21, 26	52	64.7	8.41						
West Waterville...	24	90	19, 20	52	68.2	3.70	18	86	31	51	70.3	6.90
Gardiner.....	24	86	20, 31	55	67.1	3.94	18	81	31	54	68.2	8.49
Lisbon.....	24	88				4.08						7.76
Standish.....	24, 25	89	31	50	68.9	5.17	10	89	30, 31	53	69.9	9.10
Rumford Point.....	24	87	31	50	66.2	6.90	18	86	31	45	67.5	5.10
Cornish.....	24	88	21	52	67.6	4.10	7, 14	86	31	46	68.5	9.00
Cornishville.....	24	88	21	53	69.2	4.90	8	84	31	48	69.5	9.13
Averages.....					67.0	5.04					68.3	7.71
NEW HAMPSHIRE.												
Stratford.....	24	90	31	47	64.6	4.76	8	88	31	41	66.0	5.46
North Barnstead...	24	88	31	54	68.8	4.24	5, 7, 18	86	30	52	69.1	7.86
Claremont.....	24	90	31	50	67.6	4.70	9, 18	86	31	42	68.4	5.87
Averages.....					67.0	4.57					67.8	6.40
VERMONT.												
Lunenburg.....	23	92	13, 14, 15, 16, 17	50	70.2	3.33	18	95	30	30	64.7	4.56
North Craftsbury..	24	87	30, 31	48	63.9	4.85	8	92	31	42		
Randolph.....	24	89	14, 22	49	66.4	3.30	7	88	31	48	67.7	4.90
Middlebury.....	24	84	13	54	64.2	3.11	8	80	31	48	68.3	4.25
Brandon.....	28	92	19	51	68.2	4.43						
Barnet.....	24	100	11	61	74.0	3.00						
Averages.....					67.8	3.67					66.9	4.57
MASSACHUSETTS.												
Kingston.....	4	88	13	55	68.1	7.25	18	88	31	50	70.1	8.65
Topsfield.....	4	92	19, 20, 21	57	70.1	6.39	18	90	31	55	71.3	9.21
Lawrence.....	4	88	20, 21	54	67.8	7.40	18	85	31	48	69.1	
Georgetown.....	4	88	13, 21	54	67.2		5, 8	85	31	45	69.0	
Newbury.....	28	91	21	55	69.0							
Milton.....	4	94	21	53	67.9	5.13	18	88	31	46	69.4	8.75
North Billerica...	25	89	21	54	70.6		7, 10, 19	86	31	43	71.2	
West Newton.....	4	99	1, 21	58	72.7	3.70	10, 18	94	31	54	75.2	10.15
New Bedford.....	25	82	21	55	67.7	5.92	15, 18	81	31	53	70.6	5.56
Do.....	7	89	21	57	70.2	6.11	15	84	31	54	72.1	6.42
Worcester.....	4	88	21	55	69.0	3.36	18	84	31	51	69.4	10.79

Table showing the range of the thermometer, &c., for July and August—Cont'd.

States and places.	JULY, 1867.						AUGUST, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MASSACHUSETTS—Continued.		°		°	°	In.		°		°	°	In.
Mendon	4	88	21	54	68.2	3.20	18	85	31	50	66.4	8.75
Lunenburg	25	90	21	55	73.3	3.60	7, 9, 14	86	31	49	69.2	10.80
Amherst	3, 24	86	31	55	68.1	4.00	7	84	31	48	68.6	9.16
Richmond	3, 15, 27	90	30	57	72.8	7.35	18	90	31	44	72.4	8.82
Williams College ..	28	87	14, 19	52	65.2	3.61	18	85	31	45	67.4	5.21
Averages					69.3	5.16					70.1	8.52
RHODE ISLAND.												
Newport	1	88	21	53	67.4	6.63	6, 15	86	31	52	70.0	6.70
CONNECTICUT.												
Pomfret	4	85	21	53	66.6	3.16	18	81	31	50	67.3	12.13
Columbia	4	92	18	58	70.5	.....	7, 18	88	31	48	70.6	.....
Middletown	4	94	13, 19	58	70.8	3.31	5, 18	89	31	48	70.7	10.22
Colebrook	4, 24	88	21	54	68.3	.....	5	84	30	51	68.4	.....
Groton .....					.....	.....	10, 19	86	31	52	.....	10.75
Averages					69.1	3.24					69.3	11.03
NEW YORK.												
Moriches	1	92	9, 19, 20, 21	64	74.4	4.65	11	90	31	56	75.1	5.60
South Hartford	24	92	1, 5, 13	56	72.5	3.73	7, 15, 18	86	30	46	73.4	2.50
Troy	24	93	31	57	71.6	3.42	18	88	31	51	71.7	7.29
Germantown	24	95	13	58	73.2	1.80	5, 18	90	31	56	76.0	5.80
Garrison's	4	94	19	57	71.0	4.20	18	89	31	51	71.0	10.75
Throg's Neck	3, 4, 7	90	9	60	72.6	.....	18, 21	86	30	58	73.0	.....
White Plains	4	85	16	55	69.9	.....	18	82	30	56	70.8	.....
Deaf & Dumb Ins'n ..	4	88	13, 20	61	72.3	5.76	18	85	31	54	71.9	7.70
Columbia College ..	4	90	18	60	74.1	3.88	18	85	30	61	72.6	6.72
Flatbush	14	92	18	58	70.8	2.57	12	90	31	55	72.2	8.63
Newburgh	4	93	18	58	72.3	3.11	18	89	31	52	72.0	9.23
Minaville	24	86	18	59	70.4	.....	7	84	30	54	69.7	.....
Gouverneur	24	88	18, 30	54	66.4	2.52	7	88	30	48	68.5	1.09
North Hammond ..	24	88	9, 13, 18	56	68.7	4.17	9	93	30	54	72.1	3.45
South Trenton	28	90	10, 13, 21	54	69.8	0.86	5	90	31	42	70.4	3.34
Cazenovia	28	87	19	53	67.6	.....	18	87	30, 31	48	68.8	.....
Oneida	28	92	13	54	69.6	5.96	7	91	30	48	70.1	5.15
Houseville	28	90	13	50	67.3	4.12	6, 7	89	30	48	68.1	3.33
Depauville	24	86	13	55	68.2	2.18	6, 7, 8, 9	88	30, 31	52	70.1	2.05
Theresa					3.30	.....	8	90			1.99	.....
Oswego	28	90	9, 13, 14	56	67.2	1.94	18	87	31	52	69.8	2.53
Palermo	24, 28	94	13	51	69.3	2.40	6, 7, 8, 9, 18	90	30	46	69.5	1.60
Nichols	24	95	15, 31	50	69.3	.....	6	95	31	44	69.6	.....
Geneva	24	94	13	55	70.9	2.64	18	93	30	50	69.0	0.96
Rochester	24	90	9, 13, 14	56	69.2	3.54	18	91	30	49	71.2	0.72
Rochester Univ'ty ..	24	89	9	56	69.4	3.56	18	90	31	49	69.6	0.72
Little Genesee	24	93	14, 17	48	67.4	3.30	6	91	31	37	66.7	4.00

Table showing the range of the thermometer, &c., for July and August—Cont'd.

States and places.	JULY, 1867.						AUGUST, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
NEW YORK—Con'd.		°		°	°	In.		°		°	°	In.
Friendship	24	90	17	51	67.1	2.45						
Suspension Bridge.	23	100	14	54	70.5		6, 8	96	30	46	69.9	
Buffalo	27	90	13	54	71.8	1.54	7	94	30	50	72.2	0.29
Averages.....					70.2	3.23					70.9	4.76
NEW JERSEY.												
Paterson	4, 28	94	9, 15, 18	60	71.7	4.85	6, 14	90	31	48	71.0	13.46
Newark	4, 25	88	19	56	70.9	3.76	18, 19	84	31	50	70.8	10.63
New Brunswick ..	4	90	19	58	71.9	5.03	18	87	31	55	71.3	8.45
Trenton	4	92	10	63	77.5	6.55	19	86	31	58	75.7	9.58
Burlington	4, 28	88	16, 19	62	72.8	5.80	19	86	31	55	71.3	10.50
Moorestown							19	86	31	56	72.1	8.86
Mount Holly	4	89	19	60	71.7		19	83	31	51	71.6	
Seaville	3	95	15, 20, 21, 22	62	72.3	6.20	19, 20	90	1, 31	62	76.6	7.60
Dover	4	89	13	56	70.7	5.83	14	88	30	53	71.4	11.46
Readington	4	92	13, 14, 15, 17, 19, 22	60	73.9		5, 14	88				
Haddonfield	4	92	15	58	72.4	4.18	10, 19	85	31	51	71.3	13.42
Greenwich	28	91	15	59	74.8	2.30	14, 19	87	31	53	73.7	8.77
Vineland							14	91	30, 31	56	74.1	8.53
Averages.....					72.8	4.94					72.6	10.11
PENNSYLVANIA.												
Nyces	24	90	18	51	68.4	2.90	14	85	30	43	67.0	9.60
Fallsington	3, 4	90	18	60	71.9	5.30	19	85	31	56	71.0	11.00
Philadelphia	4	91	19	62	76.1	3.03	5, 14	85	31	62	74.6	16.84
Germantown	4, 5	93	19	58	74.4		14	89	31	60	73.4	
Horsham	4	88	9	59	71.7	3.16	10, 14	84	31	54	70.4	14.80
Dyberry	24	91	14	48	66.9		18	85	31	40	65.5	
North Whitehall ..	4	88	15	52	71.6		14	86	31	45	70.5	
Parkesville	3	93	31	61	75.1	3.65	14	90	30	58	74.0	9.68
Reading	4, 5, 24	93	31	59	73.9		18	89	31	53	72.5	
Ephrata	24	95	9, 15	61	75.4	3.02	14, 18	90	31	56	73.8	14.80
Silver Spring	4	96	9	48	74.0							
Mount Joy	4	94	13, 19	62	72.8	2.15	18	90	30	57	73.2	8.80
Harrisburg	4	90	14	65	76.0	2.55	13, 19	85	31	56	73.4	14.17
Ickesburg	4	94	31	57	72.5	3.24	18	89	31	49	71.0	9.79
Lewisburg	24	92	9	59	73.0	2.73	18	88	31	47	70.9	8.74
Tioga	3, 4, 27	96	31	50	71.5	3.25	8	96	30	48	71.4	4.60
Pennsville	24	92	11, 17	50	67.9	4.21	6	89	31	42	67.3	4.24
Murrysville	24	92	9, 10	55	73.0	3.88						
Connellsville	24	92	9	55	71.7		6, 18, 19	88	30	48	71.0	
New Castle	24	93	10	45	69.8		18	90	31	47	69.7	
Canonsburg	24	92	10	52	71.1	3.60	18	90	31	42	71.0	1.84
Averages.....					72.3	3.33					71.2	9.51

Table showing the range of the thermometer, &c., for July and August—Cont'd.

States and places.	JULY, 1867.						AUGUST, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MARYLAND.												
		°		°	°	<i>In.</i>		°		°	°	<i>In.</i>
Woodlawn	28	93	8	61	75.3	3.31	14	90	30	57	73.3	11.38
Catonsville	28	89	19	61	74.2	.....	18, 19	85	30, 31	58	71.6	.....
Annapolis	28	92	10	64	77.2	4.44	18	88	30, 31	63	75.8	14.55
Emmitsburg	24	96	13	60	75.3	.....	5	95	31	54	74.5	.....
Averages					75.5	3.88					73.8	12.97
VIRGINIA.												
Cape Charles L. H. .	1, 26	90	13, 15	65	76.8	4.20	20	87	31	69	74.1	5.10
Surry C. H.	24, 25	99	19	63	76.7	.....	20	96	31	62	79.4	.....
Hewlett's Station..	1, 24, 28	92	19	59	75.3	2.75	13	91	30	64	75.0	6.57
Mount Solon	1	94	30	60	75.9	.....	13	91	30	50	72.7	.....
Lynchburg	25	90	31	62	76.6	.....	19	86	31	55	74.5	.....
Averages					76.3	3.48					75.1	5.84
WEST VIRGINIA.												
Romney	3	94	14	54	72.0	.....	13	94	31	52	73.5	.....
Grafton	3	100	10	56	77.2	5.60						
Cabell C. H.	1, 2, 3	91	10	58	75.0	1.60	12	92	31	54	74.2	2.50
Averages					74.7	3.60					73.9	2.50
NORTH CAROLINA.												
Goldsboro'	25	98	21	67	79.1	9.00	19	90	31	64	77.3	9.78
Oxford	25, 26	92	31	64	81.7	1.80	21	89	31	61	76.3	4.45
Raleigh	25	103	10, 15, 20	65	79.7	2.45	14	97	31	61	78.1	6.85
Albemarle	2, 24	97	21	59	77.0	1.43	14	93	30, 31	60	75.6	8.70
Statesville	25	94	21	55	75.2	0.25						
Asheville	25	88	10, 22	60	73.2	.....	13	87	31	55	70.5	.....
Averages					77.7	2.99					75.6	7.45
SOUTH CAROLINA.												
Aiken	24	93	14, 15, 16, 20	71	79.7	.....	20	86	31	65	75.5	11.07
ALABAMA.												
Moulton	25, 26	86	22, 23	64	76.6	5.55	5	86	30	61	78.4	4.96
Carlowville	25	94	1, 5, 11, 12, 13	75	81.9	2.26	19	95	25, 31	70	81.2	1.45
Uniontown	24, 25	97	1	74	82.9	.....					
Fish River	22	93	1, 17	73	81.0	2.82	6, 8, 13, 14, 15, 16	90	31	68	78.1	13.55
Opelika	24, 25	94	2	72	80.5	.....	16	90	31	68	75.8	.....
Greene Springs	24, 25	94	1, 7, 8	72	80.0	5.00	11	94	30, 31	67	79.5	2.10
Averages					80.5	3.91					78.6	5.52

Table showing the range of the thermometer, &c., for July and August—Cont'd.

States and places.	JULY, 1867.						AUGUST, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. emp.	Mean temp.	Rain.
FLORIDA.												
		°		°	°	In.		°		°	°	In.
Fernandina	5, 6	89	29	71	82.6	5.40						
Jacksonville	28	98	17	74	86.1	11.08	28	94	31	75	81.9	6.40
Gordon	26, 27, 31	94	29	72	82.2							
Port Orange	5	93	11	74	85.4							
Cedar Keys	2	95	17, 19	77	84.0							
Averages					84.1	8.24					81.9	6.40
TEXAS.												
Houston	24	98	2	73	84.6							
Columbia	23, 27	96	6	75	83.1	5.33						
Waco	22, 28	99	2	74	85.7	2.30	12, 13, 19, 23, 25	97	17, 18	71	84.3	4.00
Austin	28, 31	97	2	71	83.6		14	98	29, 30	72	82.6	3.27
Long Point	28	96	3, 6	76	84.5	8.31	15	99	28, 29	72	84.9	11.63
Averages					84.3	5.31					83.9	6.30
LOUISIANA.												
Benton	21, 28	92	2	72	83.3							
MISSISSIPPI.												
Grenada	24, 25	91	31	64			12, 13	94	31	61		
Fayette	20, 23, 24, 25	84	31	67	75.5							
Natchez	20, 21, 22, 23, 25	88	31	70	81.7		7, 14	89	31	65	78.8	4.00
Averages					78.6	8.16					78.8	4.00
TENNESSEE.												
Tusculum College	25	89	9	63	75.5		11, 12	88	31	57	74.0	
Lookout Mountain	25	91	15	69	77.5		13	89	2	67	77.9	
Clarksville	11, 25	89	30	63	74.7	4.05	18, 26	88	30	58	74.5	1.30
Franklin	11	88	21	68	77.1		12	93	30	60	77.7	
Averages					76.2	4.05					76.0	1.30
KENTUCKY.												
Chilesburg	2	94	10	54	75.0	5.83	12, 13	96	31	50		1.26
Louisville	24	94	10	53	75.4	3.54	18	95	30	50	76.1	1.92
Averages					75.2	4.69					76.1	1.59
OHIO.												
New Lisbon	24	100	12, 20	50	72.4	3.13	6	94	31	45		
Steubenville	24	93	17	54	76.7	3.65	18	91	31	48	75.4	2.65
Painesville	24	87	13, 29	59	70.6	5.19	18	86	30	52	70.6	1.75
Milnersville	3	93	30	50	73.0	2.79						
Cleveland	11, 28	91	9	54	71.5	2.72	18	91	30	51	71.1	0.88
Do.	4	92	9, 10	63	77.7							

Table showing the range of the thermometer, &c., for July and August—Cont'd.

States and places.	JULY, 1867.						AUGUST, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
OHIO—Continued.												
Wooster	24	96	9, 16, 17	60	75.9	.....	6	94	31	48	75.0	.....
Kelley's Island	24	89	12	61	74.0	3.63	18	89	30	57	74.9	0.14
Norwalk	2, 3, 28	90	12, 17	54	70.9	2.89	18	93	30	50	70.7	0.41
Greenwich	3, 23	90	13, 16, 19	58	73.0	1.78	18	98	30	50	72.0	0.71
North Fairfield	3, 5, 24	90	9, 10, 12, 13, 17	60	73.5	2.12	.....	.....	.....	.....	.....	.....
Marion	2, 3	89	30	59	72.0	3.14	12	89	30	48	71.3	1.40
Toledo	23	94	4	45	71.8	2.06	.....	.....	.....	.....	.....	.....
Bowling Green	24	99	30	46	72.2	4.72	6	98	30	36	69.9	5.70
Kenton	28	94	13	64	77.2	2.56	18	94	30	50	76.9	1.31
Urbana University	1	94	30	57	73.9	2.87	8, 18	93	30	48	73.1	2.08
Hillsboro'	1, 2	90	30	58	73.3	2.56	17	88	30	50	71.6	4.02
Bethel	3	94	9, 12, 13, 16, 20, 21, 29, 30	60	72.5	2.35	18	92	30	53	75.2	2.25
Cincinnati	7	96	16	64	79.4	2.38	9, 19	95	30	60	81.6	0.81
College Hill	24	97	16, 17, 18	60	76.0	0.94	13	95	26	62	77.3	0.44
Farm School	1	95	9	56	74.6	2.25	.....	.....	.....	.....	.....	.....
Averages .....	.....	.....	.....	.....	73.9	2.83	.....	.....	.....	.....	73.8	1.75
MICHIGAN.												
Monroe City	24	94	10	50	75.8	1.80	17	92	30	48	74.7	2.70
State Ag. College	23	94	12	52	71.6	1.78	5, 12, 23	90	30	38	69.8	1.74
Litchfield	25	95	12, 15, 16	56	71.7	3.83	17	89	30	48	70.0	3.60
Grand Rapids	23	94	9, 12	56	72.5	.....	.....	.....	.....	.....	.....	.....
Northport	23	88	8	52	66.7	.....	17	89	29	47	68.2	.....
Otsego	24	96	7	54	72.7	.....	7, 9, 12	94	28, 29, 30	50	72.4	.....
Holland	3	88	9, 12, 29	53	70.5	1.65	.....	.....	.....	.....	.....	.....
Copper Falls	20, 22, 23	81	11	48	63.4	2.06	8	91	31	46	64.1	1.58
Ontonagon	22	84	6	54	66.1	.....	8	88	31	44	66.3	.....
Averages .....	.....	.....	.....	.....	70.1	2.22	.....	.....	.....	.....	69.4	2.41
INDIANA.												
Richmond	2	92	9	60	72.6	6.98	18	91	30	53	71.8	1.69
Aurora	2	100	31	56	77.5	2.59	7, 18	96	30	54	75.9	1.66
Vevay	24	100	29	62	80.3	3.95	24	98	30	52	80.2	4.09
Muncie	1, 3	98	9, 29	59	76.0	3.90	9	95	30	49	72.3	5.30
Spiceland	2	97	9	58	74.3	5.20	18	94	30	53	73.3	1.50
Indianapolis	1	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Merom	1	93	8	61	75.1	4.50	.....	.....	.....	.....	.....	.....
New Harmony	1, 2, 11	91	30	66	77.8	3.62	12, 19	92	30	63	77.9	1.76
Averages .....	.....	.....	.....	.....	76.2	4.39	.....	.....	.....	.....	75.1	2.67
ILLINOIS.												
Chicago	24	100	29	58	77.4	.....	12	102	29	54	78.2	.....
Do	22, 23, 25	86	9, 12	62	72.9	1.52	17	89	30	57	75.5	2.33
Golconda	27	100	15	61	81.7	4.40	4, 10, 19	99	2	62	77.4	1.10
Aurora	2, 23	89	12	54	72.2	2.98	8	92	29	52	71.8	2.7

Table showing the range of the thermometer, &c., for July and August—Cont'd.

States and places.	JULY, 1867.						AUGUST, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
ILLINOIS—Con'd.												
		°		°	°	<i>In.</i>		°		°	°	<i>In.</i>
Sandwich	3	95	12	55	72.9	1.95	12	97	30	50	72.3	2.98
Ottawa	2, 24	97	12	57	73.6	4.23	9	100	29	56	76.3	2.41
Winnebago	23	93	13, 29	57	72.2	1.58						
Hennepin							8	95	11	50	72.0	
Rochelle	23	96	12, 15	59	73.4		12	97	29	50	74.0	
Wyanet	22	94	13	57	75.6	1.95	9	96	30	52	75.8	2.48
Tiskilwa	3, 23	94	13	54	72.6		5, 8	92	30	48	72.5	
Elmira	2	93	13	60	75.3	1.77						
Peoria	21	95	13	62	76.2	2.65	12	93	29	55	75.6	2.26
Springfield	25	98	12	56	75.2		9	98	28	56	75.8	
Loami	24	98	29	62	77.1	1.55	17	99	29	58	77.5	2.50
Waterloo	24	98	13, 29, 30	70	83.2		12	97	30	63	81.9	
Dubois	23	94	9, 30	57	76.4	5.55	9	97	30	58	78.5	2.60
Galesburg	2	89	12, 13	61			12	92	30	53	72.5	3.21
Manchester	24	95	30	63	76.8	2.83	12	97	30	61	77.4	2.50
Mt. Sterling	3	94	15	66			12, 18	96	29	62	80.2	
Andalusia	23	91	16, 18	57	75.5		7, 8, 17	90	30	50	75.7	
Augusta	24	89	16	62	77.4	3.70	12	91	28, 29, 30	58	77.9	1.86
Averages					75.7	2.82					75.9	2.43
WISCONSIN.												
Manitowoc	22	93	12, 13	50	68.3	4.32	17	94	30	44	67.8	1.52
Plymouth	23	96	12	48	71.8	3.20	7	96	29, 30	45	71.0	3.30
Milwaukee	22	91	13	46	69.2	2.60	9	94	30	43	70.2	2.01
Do.	22, 23	86	12	54	69.5	2.97	17	92	30	50	70.9	2.26
Geneva	23	93	8, 12	59	73.2		8, 9	94	30	48	73.1	
Delavan	3, 23	87	12	50	70.2	2.33	8	92	30	47	70.4	2.00
Waupaca	22	91	8, 12, 13	60	73.0		8	93	29	45	72.5	
Do.	22, 23	94	12	53	69.8	7.10	17	93	30	44	70.3	2.70
Embarrass	20, 22	94	16	46	67.4	3.56	8	95	30	42	68.1	1.64
Rocky Run	23	92	12	56	71.1	4.39						
Beloit	23	92	12	55	71.5	2.69						
Edgerton	2	100	9	55	73.0	6.18	7	101	30	42	73.1	4.00
Baraboo	3	90					7	90	30	42	71.9	1.81
New Lisbon	23	98	8, 29	52	72.4							
Galesville	22	84					7	88	30	47	71.2	
Averages					70.8	3.93					70.9	2.36
MINNESOTA.												
Beaver Bay	27	88	18	51	65.2	7.15	6	85	31	41	66.7	3.34
Grand Portage	24	78	13, 17, 31	48	59.6							
Red Wing	3	91	8	53	70.8	4.54	21	98	29	50	74.1	3.08
St. Paul	10	83	6, 8	56	68.4	3.83	7	86	29, 30, 31	48	68.3	2.32
Minneapolis	3	84	6, 8	53	67.6	5.46	16, 21	85	31	48	70.0	2.73
Sibley	3, 26	92	28	56	71.1	5.12	7	94	28	46	71.3	0.00
New Ulm	3, 22	90	6	55	74.5	4.40	21	94	31	50	75.2	0.11
Averages					68.2	5.08					70.9	1.93

Table showing the range of the thermometer, &c., for July and August—Cont'd.

States and places.	JULY, 1867.						AUGUST, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
IOWA.												
		°		°	°	<i>In.</i>		°		°	°	<i>In.</i>
Clinton.....	2, 22	95	13	60	75.3	2.00	7, 8	95	29	52	76.1	4.25
Davenport.....	24	90	13	60	71.3	5.44	9	90	30	56	74.5	2.80
Dubuque.....	2, 22	91	13, 16	58	73.8	4.86	16	91	30	49	74.3	2.28
Monticello.....		92	13, 16	59	71.9	4.30	17	92	30	48	71.9	3.37
Fort Madison.....	22, 27	93	20	61	75.1	2.59	12	99	29	54	77.2	2.44
Guttenberg.....	2, 22, 23, 26, 27	90	13	53	70.2	.....	7	96	30	42	69.3	.....
Ceres.....	23	95	16	50	74.1	.....	8, 16	94	30	44	75.5	.....
Mount Vernon.....	2	95	29	56	72.9	.....	7, 16, 17	91	28	49	72.1	.....
Iowa City.....	24	92	16	55	73.4	6.24	18	95	28, 29	50	74.7	4.45
Independence.....	23, 24	99	15	55	77.5	4.50	17	98	29	47	74.3	3.50
Do.....	27	91	15	59	73.1	3.70	15	96	29	50	71.4	2.20
Waterloo.....	24	92	16	50	71.6	.....	22	96	28, 29	50	74.0	.....
Marble Rock.....	2	88	7	58	70.9	.....	7	87	30	52	71.6	1.40
Iowa Falls.....	24	92	15, 20	58	70.3	4.30						
Algona.....	2, 3	90	11	57	72.4	.....	6	92	27, 30	53	71.8	.....
Do.....	2, 3, 22	86	12	59	72.1	.....	16	90	28, 30	54	72.3	.....
Dakota.....	23	94	7	45	71.2	.....	16	92	28	44	70.7	.....
Fontanelle.....	10, 27	92	9	43	72.8	5.13	13	95	28, 30	58	74.4	7.75
Harris Grove.....	24	90	29	49	70.2	3.80	16, 17	90	28	48	72.5	2.00
Fort Dodge.....	24	93	12, 29	57	73.3	5.57	6, 18	92	29	52	73.4	2.05
Averages.....					72.7	4.37					73.3	3.21
MISSOURI.												
St. Louis University	3	92	16	65	78.8	2.47	12	95	30	63	79.2	1.49
Allenton.....	24	101	30	56	75.5	2.95	18	103	29	50	76.5	2.25
Canton.....	1	92	29	68	79.8	0.75	16, 17	94	29	62	78.0	0.35
Rolla.....	1	91	17, 30	55	73.4	6.62	12	95	22	51	73.5	1.25
Harrisonville.....	27	92	12, 15	62	74.7	7.40	10, 11, 25	92	28	60	75.7	2.80
Oregon.....	27	94	7	63	76.6	12.74	7, 11, 12, 20	92	28	60	77.5	2.95
Averages.....					76.5	5.49					76.7	1.85
KANSAS.												
Leavenworth.....	25	102	20	56	75.0	6.39	23	97	29	47	78.5	0.50
Olatha.....	1, 23, 24, 27	98	12, 15	60	76.6	6.70	9	98	28	59	78.2	2.80
Atchison.....	1, 27	100	7, 20	62	76.6	3.60	12	100	29	54	76.2	0.00
Holton.....	1	97	15	61	77.3	.....	6, 10	95	28	58	78.3	.....
State Agric. College	23	95	15	62	75.7	5.42						
Council Grove.....	27	95	16	58	78.0	11.35	23	97	30	50	78.7	0.00
Baxter Springs.....	6	98	6, 8, 16, 29	68	82.0	4.71	10	100	29	57	80.0	1.85
Averages.....					77.3	6.36					78.3	1.03
NEBRASKA.												
Elkhorn.....	23	95	7	58	73.7	.....	17	96	28	53	74.1	.....
De Soto.....	24	95	7	56	75.2	3.50	17	101	28	57	74.7	1.39
Glendale.....	9	96	12	57	75.3	4.70	17	97	28	56	75.1	1.70
Averages.....					74.7	4.10					74.6	1.55

Table showing the range of the thermometer, &c., for July and August—Cont'd.

States and places.	JULY, 1867.						AUGUST, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
UTAH TERRITORY.		°		°	°	In.		°		°	°	In.
Gt. Salt L. City ...	1	91	17, 18, 19	60	72.2	2.61	1, 2, 17, 18, 20	90	17, 31	66	77.0	0.94
Wanship		97	17	50	73.2	.....					
Averages					72.7	2.61					77.0	0.94
CALIFORNIA.												
San Francisco	30	103	25	64	82.1	0.00						
Monterey	7	93	10, 18, 27	49	.....	0.00						
Averages					82.1	0.00						
OREGON.												
Albany	31	101	23	52	69.0	0.36						
Corvallis	7, 11	88	23	50	.....	.....				

NOTES OF THE WEATHER, JULY, 1867.

FROM THE SMITHSONIAN INSTITUTION.

Gardiner, Maine.—The mean temperature of July was two and a half degrees below the average of the month for thirty-one years, and the amount of rain was three-eighths of an inch more than the average for twenty-nine years.

Steuben, Maine.—Rain from July 19 to the 23d—a long and cold rain for the season.

Cornish, Maine.—July 18, 1867.—Crops begin to suffer for rain. 19th to 21st, heavy rain.

Williamsburg, Maine.—July 3.—Heavy thunder shower at 5 p. m., with strong wind; a few miles east some trees were uprooted, and several barns and other buildings moved from their foundations, and one unroofed. 15th.—Haying commenced to-day by farmers generally; a few began several days earlier.

Standish, Maine.—July 5.—Cranberries in bloom. 29th, corn began to silk.

Lisbon, Maine.—July 18.—A northeast storm began at 1 p. m. on the 18th, and continued till the 22d at 10 p. m. It came on very suddenly; apparently a very light shower from the east about noon, which came up almost instantly, changing rapidly into a settled northeast storm.

North Barnstead, N. H.—The rain storm commencing on the 18th came very unexpectedly, and caught out a large amount of well made hay, which could not be dried and housed until the 23d.

Claremont, N. H.—July 4.—Violent storm of wind about noon, with some thunder and lightning and a moderate fall of rain. 31.—The month has been on the whole exceedingly propitious.

Randolph, Vt.—July 3.—Herds-grass begins to blossom. 9th, wild raspberries begin to ripen. 26th, corn generally silked out; rye fit to cut.

Craftsbury, Vt.—July has been colder than June; a slight frost was noticed upon some of the low lands on the night of the 13th.

Barnet, Vt.—July 31.—There have been no storms to wet the ground very deep for some time, and it is getting quite dry. The small streams have dried up, as well as many of the springs.

North Billerica, Mass.—Rains plentiful, and streams flowing bountifully this month.

Lunenburg, Mass.—The past July was the coldest since 1860.

New Bedford, Mass.—July 13.—A continued pouring rain from 9 o'clock last night till 7 this morning. This set the brooks running again, many of which before were almost dry. 19th, a very hard rain from 4½ p. m. to 5 p. m. During one part of the storm, for about ten minutes, the rain came in floods. At Myricksville, a station on the railroad fourteen miles distant, no rain fell.

Richmond, Mass.—July 4.—A heavy thunder shower set in at 1.20 p. m.; the wind blew a hurricane from northwest for twenty minutes, and the rain fell in torrents. 31.—The month has been cool, with much damp weather.

Milton, Mass.—July has been cool, with an abundance of rain. Rain fell on twelve days during the month.

Georgetown, Mass.—July 22.—The rains of the past few days have raised ponds, brooks, and wells. Ponds in this vicinity are nearly up to spring high-water mark. 31.—The month closes with ponds at high-water mark. There is generally a freshness and color in pastures and mowed fields, more like May than July. There has been but little thunder and lightning, though much sultry weather.

Newport, R. I.—July 25.—Thunder storm from 12.30 to 2 p. m. The lightning struck the mast of a brig lying in the harbor.

Middletown, Conn.—July 25.—Shower, with much thunder and lightning, from

12.30 to 1.30 p. m. High wind for a few minutes, throwing down the tops of some chimneys and many trees. Lightning struck the cupola of the Baptist church.

Pomfret, Conn.—Thunder storms on the 4th, 12th, and 25th, p. m., each ending in cold northeasters of several days duration. The temperature has been below the mean of the month for the last fourteen years ; so have all the months of the vegetative season been, excepting April, which was about the average.

Cazenovia, N. Y.—July 4.—A tornado occurred about 11 p. m.; width half a mile. It came from Onondaga county, passed through the south part of the town of Cazenovia, and onward in a southeasterly direction.

North Hammond, N. Y.—July 24.—At 5 p. m. a wind, uprooting trees and doing much damage generally ; a pouring rain ; hail-stones as large as hickory nuts ; duration, 45 minutes ; thunder heavy and lightning sharp ; cloud moving in a southeast direction.

Buffalo, N. Y.—The weather during July was quite favorable for securing the crop of hay, which in this section is the largest ever grown.

Rochester, N. Y.—The mean temperature of the month was 1.3° below the general average for July.

Theresa, N. Y.—July 24.—Nearly incessant thunder from 5 to 7 p. m., passing from northwest to southeast ; wind high for half an hour.

Depauville, N. Y.—July was remarkable for its very cool nights. On several mornings the thermometer stood below 54° , and on the morning of the 14th as low as 48° .

Garrison's, N. Y.—The weather through the month has been cool and wet in its average character. The farmers are almost through with their hay crop, but owing to frequent rains much has been injured.

Nichols, N. Y.—The end of the month is dry and cold ; vegetation much injured. On the 31st, at 5 a. m., thermometer 42° .

Minaville, N. Y.—July has been remarkably dry ; very little rain during the month.

Friendship, N. Y.—The general characteristics of the month were dryness, clearness, and more than average warmth.

Burlington, N. J.—Rain fell on seventeen days in July.

Newark, N. J.—The mean temperature of July was 2.33° below the average of the month for twenty-four years, and was lower than every July during that period except 1859 and 1860. The rains fell principally in showers, and were distributed through the whole month, having fallen on seventeen days ; but although the falls were more frequent than usual, the total amount was about the average for July.

Grampian Hills, Penn.—During the month there was a good portion of clear and fine weather for harvesting, with frequent showers, which kept vegetation in good growing condition.

Fallington, Penn.—July 31.—The month has been unusually cool and wet.

Montgomery, Penn.—The average temperature of the month was low ; very little warm weather ; some quite cool ; not many heavy rains, but much damp, dull weather.

Dyberry, Penn.—Rain fell on twelve days in the month, and haying and rye harvest are backward and slow.

Tioga, Penn.—July 20.—Up to this time the month (especially the nights) has been unusually cold, and being pretty dry, spring crops grow slowly. 31.—Still very dry ; corn, oats, and potatoes on the upland drying up.

Hewlett's, Va.—The month has been uncommonly cool, with very little rain.

Mount Solon, Va.—July 11.—Wheat harvest about closed. It usually commences from ten days to two weeks earlier east of the Blue Ridge than in the valley counties, and about two weeks later in the counties west of the valley ; but this year the harvest was general almost throughout the State, owing to the

cool weather in the spring lasting longer east of the valley than in the valley and counties lying west of it.

Oxford, N. C.—July 31.—The corn is needing rain very much.

Statesville, N. C.—No rain during the month except a few light showers, amounting in all to only a quarter of an inch.

Attaway Hill, N. C.—July 26.—After eight days of parching heat, which has almost ruined the corn crop on upland, thunder-clouds from the southwest brought a few refreshing showers, and with them a revival of hope to make bread.

Wilkinsville, S. C.—July 15.—Early peaches ripe.

Gordon, Fla.—The month has been very rainy; planters say the worst for fifteen years.

Moulton, Ala.—During the month there were ten rainy days, and every day was more or less cloudy, affording the most favorable circumstances for the growth of corn, just at the season for the maturing of the ears; and corn crops were never better in this part of the country.

Fish River, Ala.—July was sultry, with a great deal of lightning and squalls, which came from every point of the compass, but there were no severe ones.

Waco, Texas.—July 31.—A great deal of cloudy weather during the month, but no rain after the first day, except two showers, and everything is drying up.

Columbia, Texas.—July 31.—A very wet month; showers nearly every day since June 26, though often too little to measure.

Clarksville, Tenn.—Rain fell on fourteen days of the month. The heaviest was on the 19th, when more than an inch fell from 5.30 p. m. to 9.15 p. m.

Franklin, Tenn.—The first cotton bloom seen in this part of the country was on the 2d of July.

Toledo, Ohio.—The mean temperature of the month was somewhat below the average for July, though there was much continuous and apparently excessive heat; but in the middle and at the end of the month there were some days of low temperature, which reduced the mean. The amount of rain was about half the average, which made it unusually dry, but a better month for collecting the harvest the farmer seldom ever has in this section.

Northport, Mich.—July has been one of the most growing months ever known here; everything has moved forward with great speed.

Lansing, Mich.—Slight frost in the night of July 12; an occasional leaf of corn was blackened, and a few cucumber plants in low places frozen. At 9 p. m. the thermometer was 52°, the sky clear, and no wind. No rain between the 8th and 15th.

Aurora, Indiana.—Constant rain through the night of the 11th, beginning at 7 p. m. and continuing till 9 next morning, amounting to an inch and two-tenths.

Richmond, Indiana.—Very heavy rain on the night of July 2 from 10½ till near midnight, with much lightning; amount of rain, three and a quarter inches. About seven miles to the southwest there was a large amount of hail, which was very destructive.

Vevay, Indiana.—On the night of the 29th the thermometer indicated 82° at 6 p. m., and 62° at 9 p. m., a fall of 20° in three hours.

Mount Sterling, Illinois.—The wheat harvest commenced on the 9th, and the weather for three weeks following could not have been more favorable.

Chicago, Illinois.—July 3.—Heavy gale of wind at 3 p. m., tearing up trees in different parts of the city. 31st, small hail-stones fell during rain shower at 3 p. m. for two minutes.

Chicago, Ill.—July 31.—A destructive storm of rain and hail, beginning at 3 p. m., the rain continuing about an hour, and the hail fifteen minutes; the violence of the storm extending about one mile south and north of the residence of the observer, which is six miles south of Chicago, or one mile from the

city limits; many of the stones were an inch in diameter, and great damage was done to fruits, vegetables, and green-houses; the east front of green-houses escaped. No thunder or lightning, nor violent wind, accompanied the storm, nor was the thermometer much affected.

Winnabago, Illinois.—July 31.—Local showers, with thunder in afternoon and evening; apparently but little rain at any point.

Oregon, Missouri.—July 1.—Farm and garden produce much injured by grasshoppers. 2d, Missouri river rising and overflowing the bottom. 4th, fruit and ornamental trees damaged by storm. 8th, Missouri river falling; harvest commenced about two weeks later than usual. 26th.—Mill creek, passing three-quarters of a mile southeast of Oregon, higher this afternoon than it is remembered ever to have been before.

New Lisbon, Wisconsin.—In the night of the 2d heavy thunder, lightning, and rain, and on the morning of the 3d severe wind and torrents of rain.

Waupacca, Wisconsin.—Heavy gale, almost a hurricane, at noon of the 2d, lasting half an hour; nine clear days and fourteen rainy days during the month.

Embarrass, Wisconsin.—July 2.—Thunder-storm from northwest from 11.30 a. m. to 1.20 p. m.; rain fell in torrents for a short time; wind very high, snapping off trees three or four feet in diameter. 9th, very light frost; it did no damage. 28th.—Very hard thunder-storm last night from southwest; the rain part of the storm passed to the west-northwest of this place, where it did much damage to grain, especially rye, which was badly lodged.

Milwaukee, Wisconsin.—July 2.—A violent hail-storm at the south end of the city, but not at the station occupied by the observer. 31st.—A waterspout seen on the lake this morning from north point of Milwaukee bay; at 9¼ p. m. a heavy thunder-storm.

Plymouth, Wisconsin.—July 2.—Thunder-storm from northwest and north, commencing with a violent gale from north, doing much damage to trees, fences and buildings; some hail-stones fell southeast from here as large as small hen's eggs. 13th.—Early in the morning quite a severe frost, injuring corn in low places. 31st.—Crops are all suffering by the drought.

Minneapolis, Minnesota.—July 20, 21, 22.—Great flood in the Mississippi, caused by heavy rains in the northern part of the State. The water rose to a higher point than has been reached since 1850, destroying a large amount of property in the shape of mills, bridges, dams, booms, and logs.

St. Paul, Minnesota.—The observer says: "A very heavy rain-storm prevailed on the 18th and 19th between Crow Wing and Sauk Centre, in the northern part of the State, depositing from thirty to forty inches of water. This is given upon the best authority."

[Other correspondents have sent us accounts of this extraordinary rain. All who can obtain any correct data with regard to its amount and extent are requested to furnish them to the Smithsonian Institution.]

Beaver Bay, Minnesota.—July 22.—Water in Lake Superior fourteen inches higher than on April 30. 1864.

Independence, Iowa.—July 24.—Thunder-storm in afternoon and evening. Ten miles northwest this storm assumed the form of a tornado a fourth of a mile wide, moving from northwest to southeast, partially destroying three log-houses and doing other damage.

Clinton, Iowa.—The weather during July was very fine; getting to be very dry towards the end of the month.

Algona, Iowa.—July has been a remarkable growing month. Crops of all kinds promise the largest yield ever known in this State. Barley is cut, and in some instances threshed; wheat will be ready for the reaper in six to ten days; corn stands shoulder-high, very heavy.

Fort Madison, Iowa.—July 31.—Very dry; corn small and backward; wet spring caused late planting.

Glendale, Nebraska.—The nights during this month have been remarkably cool, and often cold, but as the thermometer has fallen but little previous to 9 p. m., and has risen rapidly after sunrise, the depression shows but little in the recorded temperature.

Elkhorn City, Nebraska.—July 31.—Some wheat and oats have been cut, but there is an unusual difference in ripening, and much will not be fit to cut for a week or more; the promise is good for a large yield of both; corn is still backward, and will require a long season to make a good crop. The month is below the average temperature.

Cathlamet, Washington Territory.—A correspondent writes that this has been the rainiest July he has known during a residence of sixteen years on that coast.

Great Salt Lake City, Utah.—The season has been very fine for farming, but on the last day of the month the grasshoppers came by millions.

Wanship, Utah.—July 31.—First appearance of a cloud of grasshoppers over Wanship; they have destroyed half of the grain in Cache valley, and all the fruit and a great amount of grain in Davis county. They are swarming on the lower part of Weber river.

Marsh Ranch, California.—The only rain which fell during July was a few drops on the 30th, between 5 and 6 a. m.; it was accompanied with thunder and lightning.

NOTES OF THE WEATHER, AUGUST, 1867.

The tables for August show extraordinary rains near the Atlantic coast, while the interior suffered from drought. In the following notes brief extracts have been made from some of the registers to show the date and amount of a few of the principal falls of rain. It will also be seen that an extensive frost occurred at the end of the month. All the references made to it on the registers are embraced in these notes. No other frost is mentioned by any of the observers.

Gardiner, Maine.—The mean temperature of August, this year, was about one degree above the average of the month for thirty-one years. The average rain fall for the month for twenty-nine years is 4.09 inches, this year 8.49 inches, or a little more than double. The largest amount in any August previously recorded was 7.49 inches in 1856.

Cornish, Maine.—The mean temperature of the month was nearly five and a half degrees above the average of August for thirty-five years. The amount of rain was the largest ever recorded at this place in August.

Lisbon, Maine.—Four inches of rain fell from 7 a. m. of the 16th to 7 a. m. of the 17th. This storm caused a great amount of damage to roads, bridges, and railroads. At the deep cut, five miles from here, the railroad was washed eighty feet in length and thirty feet deep, no cars crossing again until the 21st.

Antrim, N. H.—The rain storm on the 16th is said to have been the heaviest that has occurred here at this season of the year for forty years.

North Barnstead, N. H.—More rain fell during August than in any month since the observer has kept a record, a period of ninety-two months.

Stratford, N. H.—August 31.—Frost in low places this morning, doing but little damage.

Claremont, N. H.—August 31.—Slight frost this morning, the first of the season; no harm done, unless to tender crops in exposed places.

Craftsbury, Vermont.—A slight frost on the night of the 30th, affecting vegetables on the low lands.

Middlebury, Vermont.—August 31.—Slight frost this morning.

Williamstown, Mass.—August 31.—Slight frost in places.

Worcester, Mass.—Heavy rain from 14th to 17th, in all 4.81 inches, the largest amount ever registered here in a single storm; the record has been kept twenty-five years. The total amount for the month was greater than for any previous month since August, 1856.

Lunenburg, Mass.—More rain fell during this month than in any month for twenty years.

West Newton, Mass.—August 31.—Slight frost in low lands; no damage.

Richmond, Mass.—The storm of the 15th and 16th caused a flooding of low meadows, and roads were badly washed. Frost is reported on low lands on the 31st, but not enough to do damage.

Kingston, Mass.—August 4.—The unusual phenomenon of an August freshet is witnessed to-day. The water is not often any higher in the river in the spring than it is now.

Newport, R. I.—Three inches and six-tenths of rain fell on the 2d of August from 2 a. m. to 6 p. m.; this was more than fell during all the rest of the month together.

Columbia, Conn.—The month has been remarkable for the great quantity of rain, and for the number of unpleasant days, making it almost impossible to cut and secure the crop of hay.

Middletown, Conn.—The fall of rain during the month was more than double the average of August for nine years, including the present.

Garrison's, N. Y.—There has been a great amount of wet and overcast weather during the month, and the amount of rain is almost unprecedented.

Depauville, N. Y.—The month was remarkable for its calm and cloudless weather. On twenty-five days the wind was from the south or southwest. There was a long drought; no rain of importance fell during the month, except the 13th. A few occasional showers of short duration have kept the earth from totally parching.

Nichols, N. Y.—Drought severe up to the 13th; at the end of the month the grass as green as in June.

Palermo, N. Y.—This has been a very dry month, and vegetation has suffered for want of rain. There was a violent tornado 12 miles southwest of here at 3.30 p. m. on the 14th.

Minaville, N. Y.—August 31.—First frost last night.

Rochester, N. Y.—August has been exceedingly dry, no rain of any consequence having fallen between the 25th of July and the 28th of this month. With so little water-fall the drought would have been very afflictive if the temperature had ranged only a little higher. The August in which the least rain has fallen in thirty-one years was in 1843, when seven-tenths of an inch fell, which was only two-hundredths of an inch less than in this month. The greatest amount of rain in any month in thirty-one years was 6.83 inches in September, 1853.

Buffalo, N. Y.—August 31.—The drought in this vicinity is unusually severe. Pasture lands are parched and brown, and farmers in some of the adjoining towns are feeding their stock with hay.

Newark, N. J.—The mean temperature of August was thirteen-hundredths of a degree below the average of the month for twenty-five years. The quantity of rain was more than in any August during the same period, except in 1843 and 1853. Two and a half inches fell on the 9th, from 9 a. m. to 4 p. m.; the heaviest fall was from 12 m. to 3 p. m. in the northern suburbs, but not extending two or three miles north. The Morris canal broke its banks and overflowed a portion of the water-works.

Greenwich, N. J.—The rain on the 9th was less than two-tenths of an inch. On the 15th, with some showers on the 16th, four inches fell, being the heaviest rain that has occurred here for twenty or thirty years.

Seaville, N. J.—Two inches and two-tenths rain fell on the 6th, and two inches and four-tenths on the 16th.

Nyces, Penn.—August 31.—White frost last night in a few places; no damage done.

Fallsington, Penn.—This August, also the three summer months, have been the wettest of which the observer has any record.

Philadelphia, Penn.—It rained in appreciable quantities on fifteen days, and the amount was 16.84 inches, while the average for the month for seventeen years, including this month, is only 4.52. The large quantity of rain that fell on the 15th caused a great freshet in both the Delaware and Schuylkill rivers, doing considerable damage. At 2 o'clock in the afternoon the water was 7 feet 4 inches above the dam at Fairmount. In August, 1860, $9\frac{1}{4}$ inches of rain fell, and that was the nearest approach to the present month during the seventeen years observed.

Dyberry, Penn.—This month has been unusually wet, damaging much hay and causing potatoes to rot badly.

North Whitehall, Penn.—This August has been wetter than any that the oldest inhabitants recollect.

Tioga, Penn.—August 31.—Since the 18th the weather has been very favorable for farm work, but cool nights; corn does not come forward very fast. This morning at 5 o'clock the mercury was at 40° , and there was quite a frost in some places, injuring corn and buckwheat a little.

Pennsville, Penn.—There were frequent showers during the month, but no heavy rains or floods. Crops mostly gathered in, except corn and buckwheat, which are both well grown. Corn mostly late, owing to the wet in April and May.

New Castle, Penn.—August 31.—White frost; heavy in some localities; killed tender vegetation.

Woodlawn, Md.—Very heavy rains have fallen during the month. On the 1st and 2d two and a quarter inches fell, and on the 13th to the 17th six and a half inches. Fields and roads have been washed very badly, and great injury has been done to property in the valleys of streams.

Annapolis, Md.—August was characterized by heavy rains, the quantity greater than ever before recorded by the observer. On the 10th an inch and fifty-five hundredths fell in half an hour, from 4.35 p. m. to 5.05 p. m.

Emmitsburg, Md.—Rained on fifteen days during the month. On the 16th, at 4 a. m., there was a storm, blowing down trees; wind from the north. Frost in the neighborhood on the 31st, but none visible here.

Catonsville, Md.—The heavy rains of the 14th and 15th raised the waters of Gwynne's Fall, between Baltimore and Catonsville, so high as to carry off all the bridges except the Baltimore and Ohio railroad viaduct. The same took place October 10, 1866, previous to which the like had not occurred within the memory of the observer.

Cape Charles light-house, Va.—Nearly two inches and three-quarters of rain fell on the first three days of August, and an inch on the 28th. These were the heaviest, only a little more than an inch and a third falling during the rest of the month.

Lynchburg, Va.—From a rough measurement without a gauge the observer estimates the rain of the 15th to have amounted to about an inch and a half. No heavy rain occurred during the month.

Romney, West Va.—August 28, the hardest rain of the season, with violent wind, and hail as large as birds' eggs.

Raleigh, N. C.—Three and one-tenth inches of rain fell during the night of the 2d, and one inch and two-tenths on the 14th and 15th, which were the two largest rains in the month.

Albemarle, N. C.—The rain during the night of the 2d amounted to three

inches and a tenth, and on the 14th and 15th to five inches. This last rain fell in sixteen hours, and the observer says it was "a god-send to the generally suffering crops, though some damage was done by suddenly-swelled water-courses."

Goldsboro', N. C.—August 9.—A storm in the middle of the day, accompanied with very heavy thunder and vivid lightning. The wind arose almost to a gale. Five and a quarter inches of rain are recorded as having fallen in two hours and three-quarters.

Aiken, S. C.—The largest rain in the month was on the 14th—four inches and a third.

Jacksonville, Florida.—On the 27th of August eight-tenths of an inch of rain fell in fifteen minutes.

Fish River, Ala.—The amount of rain during the month was very large. On three days (the 1st, 27th, and 29th) two inches fell, and on three days (the 11th, 18th, and 24th) an inch and a half. It rained on sixteen days, and there was not one entirely clear day during the month. The squalls came in every direction, very often two meeting. Old citizens call them "coast rains."

Greene Springs, Ala.—Cotton crop somewhat injured by want of rain early in the month; the whole month unusually dry for August. Rain fell on eight days; the largest amount was sixty-three hundredths of an inch, on the 20th.

Grenada, Miss.—Only three rains recorded during the month, viz: "light" on the 19th, "copious" on the 20th, and "moderate" on the 28th.

Clarksville, Tenn.—The largest rain during the month was forty-five hundredths of an inch, on the 20th.

Louisville, Ky.—Rain fell on six days during the month; the greatest amount was seventy-three hundredths of an inch, on the 21st; only one other exceeded a quarter of an inch.

Chilesburg, Ky.—August 31.—From the drought, the grass is quite short and dried; the corn crop will be short in many neighborhoods. Rain fell on eleven days, but on six of these there was not enough to measure; the largest amount was half an inch, on the 24th.

Urbana, Ohio.—The mean temperature of this month is 1.95° above the average of August for sixteen years. There was frost on the morning of the 30th, but so slight as to do little or no damage; the thermometer on that day was 44° at sunrise. The quantity of rain during the month is 1.60 inch less than the average for sixteen years. The degree of cloudiness is thirty per cent. below the average for the same period, and less than in any year except 1854. The wind also is thirty per cent. below the average.

Kelley's Island, Ohio.—During the entire month of August, up to 6 p. m. of the 31st, the amount of rain has been but fourteen-hundredths of an inch, which fell on the 24th. There were one or two other light showers, but not enough to lay the dust, and there has been scarcely any dew. Vegetation is suffering severely from drought, and pastures are as dry and the grass as destitute of color as in January.

New Lisbon, Ohio.—White frost on the morning of the 31st; no damage.

Bowling Green, Ohio.—August 30.—Thermometer at 5 a. m. 36° . White frost was seen in many places.

Norwalk, Ohio.—The drought is greater than in any year since 1854; pastures are dried up, and there is much corn that will not ripen.

Litchfield, Mich.—August 30.—The ground is white with frost in many places this morning, but there is no injury to crops except on cultivated marshes; the corn and buckwheat are badly injured on them.

Otsego, Mich.—August 30.—Had a frost last night that nipped corn in some low spots.

Monroe, Mich.—August 30.—Light white frost in some places in the city; no perceptible effect on plants. Vines were killed fifteen or twenty miles back in the country, but no particular damage to crops.

Aurora, Ind.—August 31.—Corn and potatoes are suffering for want of rain; pastures look dry and the leaves of plants withered.

Muncie, Ind.—August 7.—A large quantity of hail fell with the rain, between 4 and 5 p. m. Its path was about a mile in width. 30th.—A very light frost; no damage.

Indianapolis, Ind.—August 8.—Violent gale at 2 p. m. Several large trees were blown down, and some two feet in diameter were broken off at a considerable distance above the ground. Hailstones fell of large size.

Richmond, Ind.—August 30.—A very light frost is reported in some places.

Vevay, Ind.—August 1.—Violent rain and thunder-storm from the west from 4 to 4.30 a. m. 2d.—Severe rain-storm from the west from 2 to 4.30 p. m., preceded by a violent gale, which scattered trees, branches, chimneys, &c., in all directions, while the streets from curb to curb were under water; one inch of rain fell. 8th.—Strong gale and rain-storm in the afternoon; trees were blown down. 19th.—At 3 p. m. a hurricane from the southwest, but separated near here, partly moving east and northeast; five miles above here both clouds united again, and following the course of the Ohio river eight miles above here, near Warsaw, Kentucky, a steamer encountered the storm, and was near being destroyed.

Springfield, Ill.—August has been one of the driest months on record. The ground is cracked in the largest, deepest fissures seen for many years. No rain since the first day of the month till the last, except very slight showers, hardly sufficient to lay the dust. Stock have suffered severely for want of water.

Dubois, Ill.—Excessive drought during the first half of the month. An inch and a half of rain fell on the 19th.

Tiskilwa, Ill.—On the last day of August it rained two hours, wetting the ground the best since the 10th of June. Pastures have become very short, no after-feed springing up on the meadows except clover.

Mount Sterling, Ill.—August 31.—There has been no rain that has moistened more than the surface of the ground since the 4th of July.

Aurora, Ill.—The month has been unusually dry, and very little thunder and lightning. Fox river is not remembered to have ever been so low; for two weeks the channel has been nearly dry.

Oregon, Missouri.—From the 1st to the 23d of August the weather was generally dry and hot. Corn began to show the effect of the drought, but the succeeding rains have restored vegetation.

Manitowoc, Wis.—August 30.—Temperature 39° at sunrise; frost on low places back from the lake.

Plymouth, Wis.—August 31.—The dry weather which has prevailed during the spring and summer still continues, and corn and potatoes are suffering from the drought. At sunrise on the 30th the thermometer was down to 30°, with light frost on low places.

Waupacca, Wis.—Slight frost in the night of the 29th in low places; no damage; thermometer 32° at 5 a. m.

Baraboo, Wis.—Slight frosts on the 29th, 30th, and 31st.

Bloomfield, Wis.—August 29.—This night occurred the first frost, killing melon vines on low grounds.

Embarrass, Wis.—August 30.—First frost this morning, nipping vines, &c.; farmers had cut their corn mostly; potatoes injured some. Not much damage done in this locality.

Minneapolis, Minn.—A slight frost in the night of the 28th.

Red Wing, Minn.—August 28, 29, 30, 31.—Frost at night, killing vines and tender vegetation.

New Ulm, Minn.—A little frost on the night of the 31st.

Dubuque, Iowa.—August 30.—Very heavy dew and slight white frost last night.

Iowa City, Iowa.—Only a quarter of an inch of rain in August, preceding the 26th.

Independence, Iowa.—The month has been very hot and dry, and there were strong apprehensions here that corn would prove a failure, but the rain in the night of the 30th has saved it. This rain measured an inch and four-tenths, while there were only eight-tenths during all the rest of the month.

Marble Rock, Iowa.—August 30.—Thermometer, at 5 a. m., 42°. The house of the observer is on a high, dry ridge; the garden to the north sinks about eighteen feet in about twenty-two rods, and that is sheltered on the north. There the frost always shows itself first, and at sunrise this morning it was quite white. On a water-trough close by, ice just showed itself.

Clinton, Iowa.—Only three-quarters of an inch of rain fell in August, until the 26th; after this, three and a half inches.

Guttenberg, Iowa.—The observer says: "This month has been the finest ever sent to mankind for the harvest."

Monticello, Iowa.—"There were but two rainy days this month, and two days entirely clear. Have never seen better weather for harvesting."

Fort Madison, Iowa.—This has been the warmest August since 1854. The month has been very dry, and wells have failed.

Council Grove, Kansas.—Not a drop of rain during the month.

Atchison, Kansas.—A few drops of rain on the 25th and 31st, but not enough to measure.

Holton, Kansas.—No rain during the month to wet the ground; it drizzled a little several times. The ground seems to be as dry as in 1860, the year of the great drought.

De Soto, Nebraska.—August 29.—Invasion of grasshoppers, looking like a snow-storm. They show a preference for corn and potatoes.

Glendale, Nebraska.—August 24.—Very dry; farms and gardens suffering much for want of rain. 31st.—Grasshoppers or locusts now at work on the corn-fields; the blades and tops mostly gone; many stalks, three-fourths of an inch in diameter, cut off, and many ears, just glazing, eaten down, cob and corn, from one to two inches.

Richland, Nebraska.—August 27.—At noon large numbers of locusts appeared, and continued to come from the northwest until the evening of the 29th. They still (August 31) remain, and it is probable that the corn will be almost or entirely lost.

Great Salt Lake City, Utah.—Light rains or showers on the 10th, 11th, 14th, and 29th.



MONTHLY REPORT

OF

THE DEPARTMENT OF AGRICULTURE,

FOR

OCTOBER, 1867.



WASHINGTON:
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1867.



MONTHLY REPORT.

WASHINGTON, D. C., *October, 1867.*

SIR : I beg leave respectfully to report for the month of October a brief digest of the operations of my division, with articles containing suggestions from the entomological and horticultural divisions of the department, as indicated by the following titles, viz : Condition of farm crops for October, with tables ; Western wheat growing ruinous ; Extracts from correspondence ; American wines and wine grapes ; Entomological ; Is Crotalaria poison ; Mildew on the grape ; The wool prospect ; Imports for seven months of 1867 ; Agricultural statistics of Ireland ; Prices of English sheep, &c., &c.

Respectfully,

J. R. DODGE.

Hon. J. W. STOKES,
Acting Commissioner of Agriculture.

CONDITION OF FARM CROPS FOR OCTOBER.

Wheat.—Our returns for October contain local estimates of the amount of wheat yielded, in comparison with the crop of last year. They are made with due consideration of differences in acreage, in appearance at the time of harvesting, and in condition and yield of grain in threshing. Full returns from the Pacific coast, the Territories, and from some of the youngest of the border States have not yet come in ; a final, definite estimate in bushels, therefore, will not be made until the issue of the next number. The result is gratifying to the farmers of the nation, and to consumers of flour generally. While few localities have exhibited large yields per acre, and some have caused comparative disappointment by an average product less than was confidently expected at harvesting, the sum total in bushels will exceed that of any harvest hitherto gathered in this country. It will surmount the figures of last year by forty to fifty millions ; but will not reach the amount which should have been attained, upon the ratio of increase made between 1850 and 1860, by twenty millions. As an approximate estimate, upon present data, 220,000,000 to 225,000,000 bushels may be received as the crop of the entire country for 1867.

In some of the eastern States, in Texas, and Kansas, the figures scarcely equal those of last year ; in Texas the reduction is fully half. In the north-western the increase is variable and moderate, as follows : Illinois, 7 per cent. ; Minnesota, 8 per cent. ; Michigan, 13 ; Iowa, 15 ; Wisconsin, 16. The belt of States in the Ohio valley which suffered so unusually last year, and made but four, five, six, or eight-tenths of a crop respectively, and averaged together but half a crop, have made a heavy increase upon those figures. The largest is made by Ohio, 130 per cent., as might be expected, the deficiency having been greatest there ; Indiana is placed at 85 per cent. increase, West Virginia, 51 ; Kentucky, 38. In the Atlantic States, the greatest deficiency last year was in Pennsylvania, and the increase there this year is 57 per cent.

The southern States show a material enlargement in the area of wheat, from an evident intention to become more nearly self-supporting and independent than formerly. This is particularly noticeable in Virginia, Georgia, Alabama, Tennessee, and Arkansas. The great decline in Texas results from several causes, one of which is the neglected and weedy condition of lands which formerly yielded good crops. Our correspondent there writes that it has been continued in his region for five years; that "up to that date the prairie farms were almost entirely harvest fields yielding from 15 to 25 bushels per acre, and now the average yield is about $4\frac{1}{2}$ bushels per acre. The causes are no doubt various, some of which can be overcome, such as proper preparation of the land and selections of early seed from the northern climates. All are convinced that the usual mode of seeding on foul land and bad ploughing will not do, and are now acting upon the belief."

The quality of wheat is greatly superior to that of last year; it is almost universally sound and dry, but in many localities there may be found from a third to a half deficient in weight, lacking in plumpness or slightly shrivelled, and passing as No. 2, being less than 58 pounds to the bushel. There is also a greater tendency to cleanliness and care in preparing the grain for the market. High prices and the marked discriminations of buyers are doing good service in this direction.

Oats.—The yield of oats has proved less than was expected in Maine, Vermont, New York, Virginia, Mississippi, Texas, Tennessee, and Kentucky; in Michigan no increase over last year is reported, but most of the western States have made a comparative gain. As in the case of corn and wheat, the majority of the southern States added to their area in oats, and have a larger product. The quality and yield are a fair average in Ohio, Indiana, and Illinois; in Wisconsin, Minnesota, and Iowa, they are generally of superior quality and have threshed out very satisfactorily. The aggregate estimate will exceed 280,000,000 bushels—about three per cent. above that of 1866.

Rye.—This grain has made a very uniform growth and yielded an average product, with few exceptions. The report indicates a larger total product than last year, and the quality is uniform in most of the States. Those which show a slight depreciation are Maine, New Hampshire, Vermont, Rhode Island, Delaware, Virginia, Tennessee, and Nebraska. In the southern States the crop is generally good. The estimate for all the States excepting those on the Pacific is 21,900,000 bushels. This is an increase of four per cent. over the product of last year.

Barley.—The barley crop is slightly deficient—about a half million bushels, or four per cent. as compared with the crop of last year. Illinois, Kansas, Pennsylvania, New York, and all of the eastern States except Massachusetts and Connecticut, share in the deficiency. New York being the principal grower, producing nearly forty per cent. of the crop, a deficiency there of thirteen per cent. is equivalent to half a million bushels. The comparative losses and gains of all the other States together will balance each other.

Beans and Peas.—The pea crop is one of some importance in the south, costing little for labor, and furnishing valuable aid in fattening domestic animals, particularly hogs. It is gratifying to observe that this interest has not been forgotten. In Georgia an increase of 35 per cent. is reported; in Alabama, 13 per cent.; and in South Carolina, 8 per cent. Texas, Tennessee, and Maryland, report an average. A slight deficiency is indicated in Mississippi, 30 per cent. in Louisiana, 25 in Florida. The bean crop in New England is slightly deficient, except in Vermont; in Virginia and Kentucky, and in most of the West, so far as it is cultivated, it has proved better than an average crop.

Corn.—The final exhibit of the corn crop will be tabulated in November. West Virginia, Kentucky, Ohio, Indiana and Illinois, a belt which suffered last year by the winter-killing of wheat, were affected by a drought of considerable severity, which will cause a heavy reduction of the general aggregate. The

tenor of the reports for this district differ little from those of September. To offset this deficiency in part, an increase, ranging from 7 to 17 per cent., is reported for the States of Michigan, Wisconsin, Minnesota, Iowa and Kansas. Delaware, Virginia, and North Carolina have small crops, and Pennsylvania is slightly deficient. The States further north and east have generally shown a slight increase, and the southern States have made a comparatively heavy increase. The quality is uniformly good, leaving no doubt that the value of the entire crop, after deducting the deficiency in the Ohio valley, and allowing for an increase in almost all the other States, will be greater, not only in cash but in the intrinsic life-sustaining and pork-producing power, than that of last year. As the deficiency occurs in the centre of the commercial pork-packing district, it will affect unduly the market, both for corn and pork, making the scarcity more prominent, while the comparative abundance of the South will greatly reduce the demand upon the West. At the end of another season it will be shown that there was corn enough for pork, for beef, and a larger quantity of whiskey than the government will be able to collect the tax upon.

Sorghum.—The sorghum interest has greatly declined. Frosts have injured the crop in many places, the acreage is much reduced, and despondency is evident in the feelings of many growers. It is to be hoped that greater success will be enjoyed next year, as the quality of the sirup is yearly improving.

Buckwheat.—This crop will scarcely equal that of last year. East and north of Pennsylvania there is a deficiency, varying from 3 to 9 per cent. There is no deficit in Delaware, Maryland, Missouri, Iowa, Kansas and Nebraska. In Ohio the decrease is reported at 29 per cent., Indiana 17, Illinois 9, Michigan 6 per cent.

Potatoes.—The potato crop is a poor one this year. The heavy summer rains of the eastern coast, from Maine to Virginia, have occasioned much loss. The decline from last year is stated at 27 per cent. in New Jersey, 16 in Pennsylvania, (much more in the eastern part of the State,) 17 in Delaware, 8 in New York, 9 in Massachusetts, 17 in New Hampshire and 40 in Maine. In the West the crop has suffered in some places from drought; in others from the potato bug, the well-known 10-lined spearman.

Tobacco.—A decline in the tobacco product is indicated in the principal tobacco-growing sections. For particulars see crop tables.

Sugar.—Louisiana, the only State producing cane sugar to any extent, reports an increase of 20 per cent. over the small yield of last year.

Cotton.—Complete estimates will be made on the receipt of the November returns. The returns of October indicate a considerable increase in South Carolina, Georgia, and Alabama; about the same yield as last year in Mississippi, Arkansas, and Tennessee, and a marked diminution in Texas and Louisiana. All estimates below 2,000,000 bales of 400 pounds are decidedly fallacious, while present indications favor an approximation to 2,500,000 bales.

Fattening cattle.—There appears to be a small deficiency of fattening cattle in Kentucky, Ohio, Indiana and Illinois, the centre of eastern supplies. Further west and northwest, the supply is generally quite as good as last year. In those States that report a reduced supply, there is also a reduction in condition; in all of the other States the reports upon condition are quite favorable.

Old wheat.—A glance at the table will show a reduction as compared with last year, when the old stock was also small. The stock of old wheat has not been reduced so low for many years, if ever.

Table showing the condition of the crops, &c., on the first day of October, 1867

STATES.	WHEAT.		OATS.		RYE.		BARLEY.	
	Average amount of crop compared with 1866.	Average quality compared with 1866.	Average amount of crop compared with 1866.	Average quality compared with 1866.	Average amount of crop compared with 1866.	Average quality compared with 1866.	Average amount of crop compared with 1866.	Average quality compared with 1866.
Maine	9.4	9.6	7.8	8.3	9.9	9.8	8.4	11
New Hampshire	9.8	9.7	10.4	9	9.1	9.8	10.2	10
Vermont	11.4	10.3	9.3	9.2	9.5	9.9	9.8	10.4
Massachusetts	10.8	11	10.5	10.3	11	10.9	10	10
Rhode Island	10	10	10	8.5	10.5	9	10	9
Connecticut	10.5	10.3	10.5	9.8	12	11	10.1	10
New York	11	10.8	9	9.3	10.2	10.3	8.7	9.8
New Jersey	11.8	11.2	10.2	9	10.6	10.2	10.7	10.3
Pennsylvania	15.7	11.4	10.9	10.5	10.4	10.3	9.9	10.2
Delaware	10	7.7	11.7	9.3	7.7	7.7	5	5
Maryland	12.4	11	10.8	10.4	11	11.3	10	10
Virginia	15.5	11	9.2	9.3	11	9.5	9.5	9.7
North Carolina	12	10.8	11.8	12.2	10.5	10.3	13	11.7
South Carolina	14.5	11.4	12	11	10.6	10.4	10	10
Georgia	18	11.5	12.5	10.5	11.1	10.4	11	10.5
Florida	10	12.5	8.5	5.5	6	6.5	-----	-----
Alabama	14.5	11.6	12	10.4	9.8	10.5	9.1	10.3
Mississippi	9.3	9.8	8.9	9.4	9.3	10	9	10
Louisiana							15	10
Texas	4.3	9	7.5	10.5	8.2	10.1	6.8	9.5
Arkansas	14.9	11.5	12.7	11	10	10.2	10	10
Tennessee	15.1	10.4	8.9	8.8	10.3	9.7	10.2	10
West Virginia	15.1	11.1	10.4	10.1	11.1	10.3	11.5	10.7
Kentucky	13.8	10.9	9.1	9	11.3	10.5	11.6	10.3
Missouri	14	11	12.5	10.5	10.5	10.6	10.1	10.2
Illinois	10.7	11.2	10.7	10.7	9.6	10.3	9.6	10.7
Indiana	18.5	11.5	11	10.5	11.5	10.4	10.2	10.4
Ohio	23	12.5	10.5	10.2	12.5	10.6	11	10
Michigan	11.3	11	9.7	10	10.8	10.2	10	9.9
Wisconsin	11.6	12.5	12	11.6	10.3	10.2	10.4	11
Minnesota	10.8	11.8	11.9	11.6	10.4	10.6	10.2	10.2
Iowa	11.5	11	10.3	11.1	9.8	10.4	10.2	10.5
Kansas	9.6	9.3	11.8	10.5	9.6	9.9	9.6	10.6
Nebraska	11	8.7	10	9.5	9	9.2	8	9

Condition of the crops, &c., on the first day of October, 1867—Continued.

STATES.	BEANS.	PEAS.		CORN.	SOR- GHUM.	BUCK- WHEAT	POTA- TOES.	TO- BACCO.
	Condition of crop October 1.	Acreage compared with 1866.	Condition of the same.	Condition of the crop October 1.	Condition of the crop October 1.	Condition of the crop October 1.	Condition of the crop October 1.	Condition of the crop October 1.
Maine	9.3	9.8	9.2	9.8	-----	9.3	6	-----
New Hampshire	9.5	9.5	9	10.8	-----	10	7.3	-----
Vermont	10.4	9.8	10	10.5	-----	9.2	8.1	10
Massachusetts	8.7	10.8	9.8	10	9	9.4	7.1	9
Rhode Island	9	10	10	9.5	-----	10	8.5	-----
Connecticut	9.2	8.5	10	10.3	9.2	9.1	7.3	8.7
New York	10.1	9.7	10	10.7	9.9	9.7	9.2	9.8
New Jersey	10.6	9.7	10	10.5	10	9.5	7.3	10
Pennsylvania	10.5	9.6	9.7	9.8	9	9.3	8.4	9.8
Delaware	10.3	10	10	7.3	8.5	10.7	8.3	-----
Maryland	10.3	10.2	10.7	10.1	9.8	10.1	9.1	9.7
Virginia	9.5	9.5	9.6	9	9	8	9	9.6
North Carolina	10.5	8	8.7	8.8	10	9.5	10	10.2
South Carolina	10.5	10.8	12.9	14.6	8.8	10	13.1	12.5
Georgia	11.8	13.5	10.5	17.5	10.5	7.7	11	12.5
Florida	4	7.5	8.5	14.5	7	-----	12.2	10
Alabama	11	11.3	12.1	16.4	9.8	10	10.3	8.5
Mississippi	9.7	9.4	12.3	15.3	8.5	-----	11.7	8.5
Louisiana	-----	7	10	13.5	12	-----	11.5	-----
Texas	10.3	10	10.5	13	10.5	-----	10.3	10
Arkansas	13.5	11	10	12	10	15.5	9.5	9.5
Tennessee	10.4	10.1	10.1	10.7	10.4	9	8.6	10
West Virginia	9.4	10.6	10.6	8.8	7.1	9.1	9.1	9.3
Kentucky	9	9.6	9.9	7.4	8.3	8	8.1	7.5
Missouri	10.2	10.7	9.9	10.5	8.5	10.1	10.1	9.7
Illinois	9.9	10.2	10	9.2	8.2	9.1	8	9.2
Indiana	10.5	10	10	9.1	7.3	8.3	8.2	9.2
Ohio	10	9.8	9.9	8	6	7.1	9	7.1
Michigan	10.6	10.8	10.9	10.7	8.7	9.4	9.8	9.6
Wisconsin	11.5	10.6	10.1	11	9.9	9.6	9.8	10.6
Minnesota	10.5	10.2	10.2	11.5	9.4	8.9	9.9	10.8
Iowa	10.2	10.4	10	11.1	10.3	10.2	9.8	9.7
Kansas	10.3	10.8	10.1	11.7	11.2	11	13.2	9.5
Nebraska	9.8	10.3	9.5	10.1	10.2	10	9.9	10.1

Condition of the crops, &c., on the first day of October, 1867—Continued.

STATES.	SUGAR-CANE. (Not sorghum.)		COTTON.	FATTENING CATTLE.		OLD WHEAT.
	Condition of crop October 1.	Average proportion of crop lost by floods.		Average number of fattening cattle compared with 1866.	Average condition of same.	
Maine				9.3	10.2	10
New Hampshire				9.8	10.6	9
Vermont				10.1	10.1	7.9
Massachusetts				9	10.5	8
Rhode Island				9.5	11	10
Connecticut				9.8	10.3	9
New York				9.8	10	7.7
New Jersey				10	10	7.5
Pennsylvania				10.2	10	6.5
Delaware				10	11.3	8.3
Maryland				11.4	11.7	10.5
Virginia			5	10.5	10	10
North Carolina			9.5	10	10	8.1
South Carolina	10	10	14.2	8.9	11	8.6
Georgia	10.5	9	15	10.7	11	15
Florida	11.2	12	8.4	11	10.5	-----
Alabama	10	10	12	9.8	11.1	9
Mississippi	10	10	10.5	9.3	11.5	6.9
Louisiana	12	-----	5.3	13	12.5	-----
Texas			7	10.8	11	4.5
Arkansas	10	10	10	13.5	12	9
Tennessee			10.2	11.4	10.4	9.1
West Virginia			10	11.2	9.9	10.4
Kentucky			8.7	8.4	8.3	7.2
Missouri			10.5	11	10.5	9.9
Illinois			9.5	9.3	9	7.4
Indiana				9.5	9.4	6.3
Ohio				9	10	5
Michigan				10.6	9.9	7.3
Wisconsin				10.3	10.4	5
Minnesota				10.8	10.9	7.2
Iowa				9.8	10.1	6
Kansas			6.5	10.7	10.2	7.8
Nebraska				10.5	10.8	9
.....				9	10	5

WESTERN WHEAT CULTURE RUINOUS.

In a tour to the northwest, undertaken for the purpose of increasing and improving facilities for the collection of agricultural statistics, and for conference with professional or other intelligent agriculturists relative to department co-operation in aid of the interests and supply of the wants of that great section, the editor of this report was struck particularly with the ruinous tendency of the current system (or want of system) of wheat culture. A few suggestions on this point will be hazarded.

In what respect ruinous? In impoverishment of the soil, in deterioration of seed, in overrunning the country with weeds, in promoting a false and wasting system of political economy. These are serious charges, but they are made in good faith, can be easily substantiated, and will be acknowledged just by thousands of western wheat growers.

The prevalent mode of operating involves first a partial breaking of the soil, rendering sowing irregular in position and depth, and drilling difficult and imperfect, giving weeds quite as good a chance as the wheat. The next year a superficial, hasty ploughing partially covers the stubble, and very slightly the tangle of weeds, and wheat is again put in. Year after year wheat follows wheat and weeds increase, while the yield of grain diminishes, partially from loss of certain elements of the soil and partly because weeds have usurped a large area of the fields. In the mean time, as if to increase the loss from the wheat necessarily carried away, the straw by millions of tons, worth almost as much per ton for feeding as the marsh or prairie hay of the country, is burned nightly in harvest time till the sky is bright with a continued holocaust of greenbacks in straw; and the excuse for thus dissipating in thin air, not only elements of nutrition, but valuable elements of fertilization, is that the way may be clear for the plough to scratch over again the maltreated soil. This picture may not be verified in every wheat field of the west, but who will deny its striking likeness in most cases?

Is proof of impoverishment wanted? One witness only is needed—the soil itself. First, thirty bushels per acre is the boast of the farmer; then the yield drops to twenty-five, to twenty, to fifteen, and finally to ten and eight. Minnesota claimed twenty-two bushels average a few years ago, (some of her enthusiastic friends made it twenty-seven,) but she will scarcely average this year twelve, and will never again make twenty-two under her present mode of farming. To be sure, there are excuses. The seasons do not suit as formerly, blight or rust comes, or the fly invades, but all these things are evidences of exhaustion, and prey upon the soil in proportion to its deterioration. Yet in comparatively new soils the depreciation is caused by excess of weeds through careless culture more than by actual loss of fertility.

The same causes that deplete the soil produce degeneracy in the seed, which perpetuates weakness and imperfection, reducing the yield so rapidly that new seed must be obtained at once or all profit must be foregone. A careful selection of seed should every year be practiced, and new seed used after successful test. It is as easy to improve seed by special care as it is to injure it by this special neglect, and he who will undertake such improvement wisely as a business, will make a fortune and prove a public benefactor.

The weed nuisance is stupendous, destroying annually tens of millions of bushels of wheat. They have obtained a strong foothold. The evil is a radical one, and can only be cured by being torn up by the roots, which can never be done without a more thorough and careful system of culture. The average yield of wheat in England is stated at twenty-eight bushels per acre, never less than twenty-six, unless in a year of unusually bad harvests. The average in this country is less than half of the lowest of these figures. Why is it? Certainly not because our soil is poorer than theirs, neither because our climate is so much

worse for wheat culture. It is mainly for want of a suitable rotation of crops, of a more careful husbandry of resources of fertilization, of a more thorough and careful culture.

A fourth aspect of the case presents a no less ruinous feature. A false system of political economy is fostered. In the northwest wheat culture is a parody upon the cotton culture of years past. It is running one production into excess, and ignoring all others. Northwestern cultivators are scarcely farmers, they are wheat growers. Cattle are high in price, horses very high, milk is scarce and butter sometimes unknown, while straw stacks are burning and the wheat at the mercy of speculators and the railroads, and bringing high prices only under the curse of God upon foreign wheat fields, and when foreign nations are in danger of famine, and even then but a moiety of the supply comes from this country. Exchanged for a thousand other needed things at exorbitant prices, the wheat brings little, so improvements are ignored and wheat fields extended, until by and by, the soil exhausted or given up to weeds, they will share the fate of cotton fields, leaving the land poor, the owner poorer, and a pioneer in some more distant west.

A dependence on grain growing for exportation has ever been a fallacy in this country and ever will be; has ever proved and ever will a curse to our agriculture. We want more grain and we want it all eaten in this country; we want the wheat-eaters among the wheat-growers; we want cloth-makers among wool-growers; we want in the west tenfold greater variety in agricultural, manufacturing and mechanical industry; then twenty-five bushels per acre will bring two dollars per bushel, and the railroads will be employed in more profitable business than carrying wheat for shipment to Europe.

A more blind, senseless, and suicidal system of agriculture was never invented than that pictured above, and we ask wheat growers if they do not recognize the picture as altogether too real to pass as a caricature.

EXTRACTS FROM CORRESPONDENCE.

LARGE INCREASE OF WHEAT.

The correspondent of the department in Albemarle county, North Carolina, Dr. F. J. Kron, reports a remarkable instance of thin seeding, at the rate of less than four quarts to the acre, with a result exceeding the average yield of the entire country:

"The Boughton (Tappahannock) wheat, (two quarts,) sent to Albemarle in November last, could not be put in the ground until the last of the month. Sowed on high, dry land, a gravelly clay slate, without manure, it made seven bushels (120 quarts to one) on a little over half an acre of ground, and this notwithstanding the scab and much wet after harvest. The wheat weighed 62½ pounds to the bushel. No wheat ever grown here was known to tiller so much; as many as fifty heads sprang from one seed. The straw was taller and stronger and the heads much larger than common; some heads yielded upwards of sixty grains. This section of country will be greatly indebted to the department for the distribution of choice cereals."

Apprehensive that there might be a mistake in the figures, a letter of inquiry was sent to the experimenter for the purpose of drawing forth an explanation, in answer to which the following was received: "Your query in relation to the Boughton wheat, experimented with in Albemarle, has just come to hand, and I hasten to reply that our reason for sowing the wheat so sparsely (two quarts to a little over half an acre of ground) was precisely as you suggested; the ground was no object, but the wheat was so fine that we wanted to give it a

chance to yield abundantly. The yield was seven bushels, which some thought would have been swelled to ten had it not been for a severe storm, which laid down a large area that could not be saved. The unusual tillering and strength of straw made were the wonder of all who beheld the lot where the wheat was maturing. Some late white wheat, sown in juxtaposition at the usual rate of sowing, did not begin to yield at the rate of fourteen bushels to the acre, as was the case with the Boughton wheat. Much of the seven bushels obtained has already been shared with others. One bushel I have sown myself, on good bottom land, in Montgomery county, at the rate of a quart to the acre, still experimenting with sparse sowing and anxious to increase our stock of so fine a variety for another year. We are under great obligation to the department for having given us the first start."

BOUGHTON WHEAT.

Mooresburg, Hawkins county, Tenn.—I got from the department one gallon of Tappahannock wheat. I placed it in the hands of a good farmer; the yield was 41 gallons of as fine wheat as I ever saw in England or this country. It will all be sown this fall.

A correspondent in Armstrong county, Pennsylvania, writing of the Boughton wheat, says: "It ripened July 4, and is a complete failure." He does not say in what respect it was a failure, except that it did not equal in growth of straw or length of heads other wheat planted by its side.

ARNAUTKA SPRING WHEAT.

Dubuque county, Iowa.—I received from the late Hon. I. Newton a package of spring wheat, weighing one and a half pound, called Arnautka or hard spring wheat. I drilled it in on three rods of ground, from which I harvested 61 pounds of wheat, which is about 53 bushels to the acre. It is undoubtedly a productive kind of wheat.

Le Sueur county, Minn.—Agreeable to request, I herewith transmit report of experiment with Arnautka, or hard spring wheat you had the kindness to send me February 13, 1867. There was one and three-fourths pound of the seed when sown. Sowed April 24. It grew nicely and stood up well. Harvested August 12, and when threshed yielded just fifty pounds. I think it a good kind of wheat for this climate and soil, (sandy loam,) a thing very much needed, as our seed needs changing in order that we may get full crops and a full return for our labor.

Johnson county, Nebraska.—About the 20th of April last I sowed one pint of the Arnautka spring wheat, received from the Department of Agriculture, and harvested twenty-five pounds from it. I think the wheat well adapted to this part of Nebraska.

WHITE AND RED MEDITERRANEAN WHEAT.

Hampden county, Mass.—In the fall of 1866 I received one package each of red and white Mediterranean wheat, which were sowed on 4th of October. When well up it was badly damaged by a drove of cows. It grew up again, however, and was cut on the 16th of July. When threshed out there were fifty-one pounds of the red and forty-six of the white. The former threshed easier, yielded better than the white, and is preferable for growth in the Connecticut valley. The wheat was grown upon sandy soil, and proves to be superior to the native varieties.

COTTON.

De Soto county, Miss.—The cotton crop was quite promising up to the first or middle of September, when it was attacked by the worms. The ravages of

the latter have not been so destructive in this county as is reported further south, but I estimate that the crop will be diminished twenty per cent. by them. The yield will be much better than last year, however, probably an increase of forty per cent.

Yalabusha county, Miss.—The cotton fields present a singular sight, being entirely divested of foliage. The caterpillar is the destroyer. The intervening spaces between cotton fields could be seen covered with them in the transit from one to the other. Estimates of planters differ, but I think the crop will fall ten per cent. below that of last year in this county. Had the crop been a complete success this region would have been relieved of most of its material embarrassment.

Charlton county, Georgia.—The almost continuous rains have injured cotton very much, and now the caterpillar is at work, so that I think not more than half a crop will be made in this county.

Morgan county, Georgia.—The rain has injured the cotton crop in this county. The lower matured bolls rotted, and the top crop on cotton that had not been topped shed off, but that which was topped is making a splendid crop. When cotton grows rapidly it is thought best to cut off the extreme top and throw the growth into the limbs and bolls. The top crop of cotton is the bolls formed on the limbs nearest the top.

Greene county, Georgia.—I have the best crop of cotton I have had for ten years, and will make double the quantity that I gathered last fall. It is opening more rapidly than I ever saw it and we are picking as much as 170 pounds to the hand in these old lands, the hands working pretty much as they please.

Spaulding county, Georgia.—I have been examining cotton in various fields, and am well satisfied that there is more cotton upon the stalks than there has been since 1848. There is no late cotton to mature, as all the bolls are grown or nearly so.

Edgecombe county, N. C.—The breadth of land in cotton in this county this year is estimated at about one-fifth more than last season, when the crop amounted to from 16,000 to 17,000 bales. Notwithstanding the increased acreage it is thought the present crop will not quite reach that of last year. The cotton worm has appeared in several localities of the county, but so late in the season as to injure the crop very little. This worm is a new enemy here, being almost entirely unknown previous to 1864, when a few appeared. In 1865 there were not enough to occasion remark. In 1866 there were more, but so late as to do no serious damage.

Union district, S. C.—Cotton is very late this year and the caterpillar has destroyed some crops. Some fields are stripped entirely of leaves. Where this was done early the half grown bolls were much injured, if not destroyed. About one-fifth of the cotton has been infected by these worms. The weather is now favorable for gathering crops.

Johnson county, Arkansas.—The caterpillars made their appearance in this county about the 12th of September, but the lateness of their appearance will permit a fair crop in the county. The loss from their depredations will be from 25 to 30 per cent., leaving a crop of from 225 to 325 pounds per acre on average lands.

Fannin county, Texas.—Little damage has yet been done to the cotton in this county by the worms and little more is apprehended. The crop will be greater than last year, as there is greater acreage and better prospects. The corn crop is probably larger than ever before in this county. The quantity of wheat is 30 per cent. less than last year, while the quality falls 20 per cent. below. The decline in our wheat crop has been very rapid for the last five years. Before that time the prairie farms were almost entirely harvest fields, yielding from 15 to 25 bushels of wheat per acre, while now the average yield is about $4\frac{1}{2}$ bushels per acre. The causes are no doubt various, some of which can be

overcome by proper preparation of land and the selection of early seed from northern climates. The usual mode of seeding on foul land and bad ploughing will not do, and our farmers are acting upon that belief. The failure in wheat-raising has made an increase in corn and cotton.

LOCUSTS.

Gillespie county, Texas.—Clouds of locusts have made their appearance in this county, and are destroying fruit trees, vegetables, in short, almost everything within their reach.

FARMING IN MISSISSIPPI.

A correspondent in Marion county, Mississippi, gives the following notes on his second year's experience in the south:

This season I engaged under very nearly the same circumstances as last year, but with a much better set of hands, have used every exertion, and this day would be glad to get my original capital, some \$4,000, though I have sustained no actual loss. Farming under the present system I am satisfied will not pay, for the present at least. I will illustrate: I hire a hand for \$150 per year; he will make me at the very best four bales of cotton, and grain perhaps sufficient to clear expenses of himself and mule. I will realize perhaps \$60 per bale for the cotton, \$240, leaving \$90 per hand to meet my own expenses, pay taxes, wear of material, &c. In carrying on labor there is no time for improvement of lands.

This is an imperfect yet true picture of the present condition. Yet with all this, appearances are flattering. The climate is far more favorable than at the north. The laborer is not as much exposed, and a less amount of labor is required to accomplish the same end. For persons of limited capital who would be satisfied with small returns there certainly is every inducement. The same attention to fertilizing lands that is shown in the east would be attended with results the most satisfactory. The principal crops are—

1. *Cotton.*—This is to the south what wheat and pork are in the north, the article to bring the farmers cash.

2. *Corn*, which can be raised to advantage for home consumption; twenty bushes, per acre will be about the highest average. Many farmers who live near railroads can make one acre of cotton pay for two of corn.

3. *Wheat.*—Occasionally in this locality. It is a very uncertain crop, which, with the poor facilities for manufacture, gives but little encouragement for its cultivation.

4. *Rye* is thought to be a profitable crop. It grows very well and is of most importance as a forage in autumn and winter. If I continue I shall always have a patch of rye.

5. *Oats* are so uncertain as not to justify any attempt at cultivation.

6. *Peas* are a standard crop, will grow on the poorest land, and are available for hay, pasturage, and as a substitute for grain. No attention has been paid to grasses. There is little requirement for winter feeding; perhaps not twenty tons are raised in this county.

Why northern or eastern people are so slow to avail themselves of these great advantages I cannot imagine. They have nothing to fear. Any person coming with the proper spirit and object will be cordially received. (I am known as a rampant radical and soldier who battled them with a will, yet none the less respected for it.) Lands can be obtained at from \$2 to \$15 per acre, ready for immediate tillage. Assistance both in and out of doors is to be had without difficulty. The freedmen are industrious, quiet, and anxious for employment.

THE "MURRAIN TICK."

Chattanooga county, Georgia.—The murrain has been prevailing here to a considerable extent. But few cattle recover. A great variety of remedies are used. A strong tea of peach tree leaves receives most favor. Some say that a peculiar tick, called the murrain tick, infests the cattle. Whether the disease produces the tick or the tick the disease, others must determine. If the latter, it may account for the manner it is communicated by droves to other cattle crossing the roads or running in lots where such have been.

[The tick above referred to is probably one of the effects and not the cause of the murrain, in the same manner that sickly trees are more liable to be infested with wood-boring insects than those which are sound and healthy. Parasitic insects, however, may carry contagion in many cases by crawling from diseased to healthy cattle, as it has been repeatedly stated that during the late prevalence of the rinderpest in England, instances were known where the contagion was carried from field to field by sheep, hares, rabbits, &c.]

HEAVY RAIN STORM.

Esmeralda county, Nevada.—During the showery months of July and August we have in this State occasional water-spouts or rain clouds bursting. On the 7th of August, as two teamsters were taking a boiler and engine to Columbus district, in this county, and when ten miles, about six p. m., they saw two clouds coming up from opposite directions, whereupon the men concluded to stop and dig a hole to catch some water for their cattle, they not having had any during the day. The rain commencing to fall, the five yoke of oxen were unhitched, by which time the two clouds had met and burst, and the water came rushing down the gulch from four to twenty feet deep, carrying rocks that would weigh a ton, and everything in its wild course was taken. The wagons, boiler, and engine weighing 7,000 pounds, were carried about one hundred rods and landed on the side of the gulch. The wagons were a total wreck, only one wheel being left of the two wagons. Two holes were knocked in the boiler and one of the engine bars bent, and all their provisions, blankets, &c., lost. The lightning was so constant that the boiler appeared as one sheet of fire, and after night it was light enough to count the cattle on the hills. Several of these storms occur every year, and those familiar with them are careful to get upon high ground when the clouds are seen rising. Several lives were lost in one of them in 1865.

TROPICAL PRODUCTS IN FLORIDA.

Manatee, Manatee county, Florida.—The whole citrus family grow very thriflily—mangoes, lemons, limes, shaddocks, &c. I think I never ate a real good orange until I came to South Florida. We have but few of the many varieties, but hope to get more by and by. Figs produce well, but do not grow with quite the ease that they do in the upper portion of the State or lower Georgia. The Smyrna is our best variety. Bananas produce well, but are set back in bearing by the frosts in winter unless they are grown in situations where the frost does not injure them. The guava is our staple fruit; the trees have now become acclimated so that they stand the few frosts of our winter without injury. Pineapples have been grown here, but not much effort has been made and they have almost run out, but will be renewed again. Dates grow, and one pair of trees are in bearing. Olives would do well, but have received no attention. The same may be said of the cocoa palm and the anona genus. The India tamarind is in bearing at Mr. Campbell's place on the north side of the Manatee river.

LARGE "CHESTER COUNTY WHITE" HOGS.

Mr. John Danforth, of New London, Connecticut, sends us an affidavit of several individuals relative to two Chester county white hogs, six months old, which weigh respectively 343 and 311 pounds. They affirm that "the pigs came to the Post Hill farm-house when five weeks old. At the age of eight weeks one named Beauty weighed 84; the other, Slick, 79; total, 163. On the 17th August Beauty weighed 204, Slick 200; total, 404. On the 17th day of October Beauty weighed 343, Slick 311; total together 654 pounds, making a gain of $4\frac{1}{4}$ pounds per day for the last sixty days."

THE DROUGHT IN ILLINOIS.

Richland county, Illinois.—The crop of corn will not be more than half; much of it rotted in the ground, soon after planting, and the drought has almost caused the ruin of that that did come up. The wheat sown this fall has suffered severely, as have also the fall pastures. Water for stock is very scarce.

CORN IN ILLINOIS.

De Kalb county, Illinois.—The corn crop so far as maturity is concerned is finer in quality than any previous crop for many years back; but it has been too highly estimated. In regard to our State, one of the first in the Union as a corn-growing State, the figures should not stand higher than nine, and I am not sure but eight would better represent the whole crop. With us in De Kalb county, ten compared with 1866, as regards quantity, is too high, but twelve would represent the quality as compared with last year.

DROUGHT IN INDIANA.

Ripley county, Indiana.—Our corn is but little over half a crop. We have suffered the latter part of the summer, and the fall so far with one of the most unprecedented droughts we have ever had in this county at this season of the year. No wheat sown yet. Indeed, the ground is so hard and dry that it is impossible to plough it.

CROPS IN NEBRASKA.

Ottow county, Nebraska.—Our corn and potatoes have materially suffered during the past two months on account of the drought in this section of country. We have had but one shower or rain-storm during the last eight weeks, and then the roots of plants were not materially benefited by it. The consequence is, that late corn and potatoes are very much lessened in quantity. Still we shall have a fair crop of both. Of late, the grasshoppers have again visited our section and are depositing their eggs in vast numbers. We begin to fear that they may prove to be an annual pest to our river towns, and in fact to the entire Missouri valley.

AMERICAN WINES AND WINE GRAPES.

A recent examination of American wines and the progress of grape culture has impressed me very strongly with regard to the vast proportions and importance which this interest is assuming, the energy and intelligence with which it is being conducted, and the encouraging prospects that, in the main, have so far attended these efforts.

Notwithstanding these encouraging results it is perhaps well to keep in view that the subject is still in its infancy, and in a great measure only experimental, and if it is now desired to establish permanent excellence upon which the future value of this interest must ultimately depend, as a source of national industry and wealth, the necessity and importance of careful and systematic observations in everything relating to the subject is forcibly apparent, so that if errors exist they may at once be corrected, and their effects arrested before they have become typical, or injurious to the character of the products of this interest.

In the Old World, where there is only one species of the grape-vine, the varieties are very numerous and vary very considerably in their qualities as to hardiness, productiveness, size, flavor, &c. A distinction is also maintained between those varieties most suitable for table use and those valued for the production of wines. In America there are several species, preserving well-marked distinctions both in fruit and foliage, as also, what is of much importance in their practical culture, peculiarities in their health, and freedom from diseases, as well as adaptability to certain climates and localities, qualities of great significance, but which have been almost if not entirely overlooked by the majority of those engaged in their culture.

The Catawba, one of the oldest cultivated and still one of the best varieties of the Fox family, (*Vitis Labrusca*,) has been the principal wine grape of the Atlantic States.* When it reaches thorough maturity it is pronounced a very good wine grape, but it is worthy of investigation whether the fruit ripens thoroughly in all localities where it is cultivated as a wine-producing grape. Our investigations tend to the belief that it does not develop its true wine characteristics in many localities where it is grown for this purpose, although it may reach a condition of maturity sufficient for a passable table fruit. Most of the varieties of this class require a long and favorable season to soften and break down the acid pulp of which they are largely composed; and when we take into consideration the tendency to disease, both in the foliage and fruit of this species, which still further retards growth, or hastens apparent ripening, we have ample reasons for the great variety of opinions constantly disseminated as to the value of these varieties as wine grapes, and the assumed necessity of attempting to add, by artificial means, what nature has legitimately failed to produce.

A class of grapes that will mature under a lower degree of maximum summer temperature than the above is represented by the Clinton, a variety of the species *Vitis Cordifolia*, (Gray.) This species is comparatively free from disease, and the varieties possess other merits which would seem to point them out as worthy attention for wine grapes. It may be that none of the varieties yet produced from this family have all the requisites required, but so far as may be indicated by the percentage of sugar in the juice, the Clinton will, when grown under the same conditions of climate and soil, north of the parallel of 40° north latitude, show a heavier *must*, as indicated by the saccharometer test, than the juice of the Catawba, and it has no hard pulp, but it possesses too much acid for a popular wine, although good wines are recorded as having been produced from this variety.

The improvement of this species is specially worthy of attention by northern grape growers.

There is every reason to expect the origination of better varieties from seed than any yet in cultivation, and, looking to the hardiness and uniform health of the family, their adaptability to mature in high latitudes, and promise for wines, we must conclude that they have been signally overlooked.

* In these remarks on wine grapes it is to be understood that we refer to the plant as adapted to climates east of the Rocky mountains. On the western coast the wine grapes of Asia are principally planted.

With regard to the quality of wine produced by any grape, it may be taken as a general rule that the best will be secured from the most southern climatic limit in which each variety will succeed.

Although good wines have been produced from both of the species noticed, yet it is believed that the summer grape varieties (*Vitis Æstivalis*.) are capable of furnishing them of greatly superior quality. Taking Norton's Virginia Seedling as an example of this class, we find that its northern limit of excellence in ripening is much south of that required for the two formerly mentioned species and varieties; but, when properly matured, its wines are pronounced to be of first quality. There are, however, other varieties of this species still more promising, such as Lenoir, Herbermont, and Devereaux. When these are cultivated in suitable localities in the States of Virginia, North Carolina, Kentucky, Tennessee, Missouri and Arkansas, they will furnish wines that, there is every reason to expect, will be unequalled by any that can be produced from any of the other species of American grapes, and will form, it may safely be prophesied, sooner or later, a means of largely increasing the remunerative products of these States.

These distinctions of species, varieties, and the climates to which they are severally adapted, must ultimately be recognized as the basis upon which American wine culture is to be established, so far as it refers to American grapes.

W. S.

ENTOMOLOGICAL.

Extracts from Correspondence.

Jackson Parish, La.—"Since the worms ate up the cotton we are visited by worms destroying the oak leaves. They strip the trees completely, and hang in immense numbers from the limbs. They are large, black, ugly-looking worms, and our hogs eat them in such quantities that the meat tastes of them, and emits a very bad smell when cooked. To eradicate the taste and smell it will be necessary to pen the hogs and feed them on corn for several months."

This caterpillar is probably *Anisota (Dryocampa) senatoria*, or a variety of the same which destroys the oak foliage in the middle States, and is in turn destroyed by an ichneumon fly.

Bonaparte, Iowa.—"Have sent in a box, with ears of corn, worms supposed to be bud or heart worms, so called from their being found in corn-stalks, stems of horse-weed, &c. These were eating in the soft ends of ears of corn, but are darker than I ever saw them before. They are always solitary, feeding alone."

One of the worms sent was an *Agrotis*, or cut worm, and the other *Heliothis armigera*, or corn worm of the middle States. The worm mentioned as feeding in the horse-weed is probably a *Gortyna*, as they feed generally in the interior of stems of various plants. It is unusual to find an *Agrotis* on corn ears, as they generally feed at the roots of plants.

Albemarle, North Carolina.—H. J. Kron, esq., gives discouraging reports about the destruction of grape vines in that region by *Ægeria polystæformis*. The larva of this insect working underground mines and destroys the vine roots, and being shielded by the bark defies the action of remedies for its extermination.

Mr. Kron states that the scuppernong alone resists the attacks of this insect, and thinks that grafting other varieties on this root is the only remedy in the infested districts.

More recently a correspondent in Cincinnati writes that a new enemy has

attacked the grape vines in that vicinity, and describes its work as similar to that of the North Carolina *Egeria polystæformis*. We have requested specimens to be sent to the department that they may be compared with those sent by Mr. Kron, but it is probably too late in the season to procure them this year.

If the insect has really fastened itself upon the vineyards of Ohio, it will, we fear, prove a most formidable and destructive foe, as, from its secret, underground manner of working, it may multiply and spread to an alarming extent before its existence is suspected.

T. G.

IS CROTALARIA POISON?

A correspondent writing from Burwood, California, sends seeds, leaves, and pods of crotalaria, or what is commonly called rattlebox or rattleweed, and says:

"Rattleweed grows very generally all over the State, and is said to be poisonous to animals eating it, particularly to sheep. Two of my sheep have lately died from, as I suppose, the effects of eating it. In both cases, I found in the stomach numbers of the rattleweed seeds, the contents of the stomach completely dried up and adhering, so that the inner coating came off when they were removed. The animals were sick for two or three days, acting spasmodically the first day, running at starts, and then standing perfectly still, the head stuck in the air, and they not noticing any one going near them. Next day they seemed to lose the use of their faculties and lie down, moving only by starts, the head being raised all the time."

We are not aware that the common eastern species of rattlebox is poisonous, but the symptoms are those usual in sheep poisoned by the *Kalmia angustifolia*, sheep laurel, or lamb-kill.

T. G.

MILDEW ON THE GRAPE.

The following original paper on this important subject, which has excited much discussion of late and developed many conflicting theories, was read by Mr. William Saunders, of this department, at the meeting of the American Pomological Society at St. Louis. Mr. S. has given many years of careful study to the subject:

"In a communication which I had the honor of submitting to this society at their meeting in 1860, the causes and effects of mildew on grapes were treated somewhat at length. Subsequent observations have only tended to confirm the views expressed at that time; it has, therefore, appeared to me unnecessary to repeat the details already embodied in your proceedings. At the same time a brief resume of what has been learned may be suggestive and useful for future reference.

"There are various forms of mildew to be seen on the leaves of the grape, although for present distinction they may be divided into two classes, viz: those that make their appearance on the under surface of the leaf, and those that develop more particularly on the upper surface.

"Both classes of mildew are mainly, if not wholly, the result of atmospheric changes, more particularly those of a hygrometric character.

"The most fatal form of grape mildew is that species which attacks the under surface of the foliage, and is known by the name of leaf blight, sun scald, and blasted leaf. Its presence is first indicated by a slightly yellowish discoloration

on the upper surface of the leaf, which gradually increases until the part affected becomes brown. By turning over the leaf the fungus will be observed spreading and destroying the vitality of the tissue; the leaves ultimately wither, crumble, and drop off.

"This form of mildew appears to be produced by continued dampness, more particularly when heavy dews or occasional rains, accompanied by dull or cloudy weather, immediately follow a period of dryness and bright sunshine; it also spreads with greatest rapidity, other circumstances favorable, in positions where evaporation is least active.

"All varieties of grapes having downy foliage are more subject to this form of mildew than are those with smooth and shining leaves.

"The second general form of mildew is that seen on the upper surface of the leaves, giving them an appearance similar to having been dusted with fine flour, and which may be brushed off without any apparent marks of injury. Occasionally this will be observed on the berries in early summer, and may have some connection with the rot.

"Its effects are those of retarding growth, and the fruit, and even young shoots, in extreme cases, crack open, as is seen in the cracking of the fruit of some varieties of the pear.

"The debilitating effects of dry air and dry soil seem to render vegetation liable to its attacks, and favorable to its extension. This form of mildew is less frequent and not so injurious on the native species of grape as that previously mentioned, and when treating on preventives the first described form will be more particularly kept in view. The rot in the berry is, perhaps, the most fatal disease in the grape, and one whose origin is yet obscure. It is undoubtedly a fungoid growth, from which fact we may deduce its origin to a disorganization of the plant, a weakened vitality, proceeding from one or various causes, either immediate or remote from its appearance.

"I purposely refrain from enumerating any of the many theories that have been promulgated regarding this disease, further than to mention that it has been noted that where it does exist, it is most persistent and fatal on plants growing in soils rich in organic matter, showing that a condition favorable to luxuriant growth of plant is favorable to the extension of this disease.

"It is also well known that, in the case of foreign grapes grown in glass structures, where all the circumstances of culture are in a great degree artificial, the rot is prevented in varieties subject to that disease by withholding water during the period of swelling and ripening of the fruit.

"It is probable that we have not yet sufficiently systematized observations on this disease to enable us to arrive at an intelligent conclusion as to its cause. Diseases of this nature are very often the result of causes affecting the plant many months previous to the visible development of the malady; therefore, reports upon the condition of the soil or atmosphere at the time of its greatest severity should not hold too prominent a place in our conclusions with reference to its origin.

"Assuming these observations to be in the main correct, we deduce from them various practical suggestions, some of which may be briefly mentioned. So far as our present knowledge extends, the constitution of the soil, either in its chemical or physical condition, or as affected in any degree by culture, exercises but little if any influence, either in promoting or preventing mildew on the leaf; but, keeping in view the supposition that mildew is the result of weakened vitality, it is within the bounds of probability that a system of special culture may be reached which will fortify the plant against injury from such attacks.

"The only preventives known are those of shelter from heavy dews or rains, either by mechanical or natural appliances, and applications of sulphur and other antidotes to the foliage. Experiments have proved that leaf blights may

be prevented by sheltering the foliage. How far expedients for this purpose can be profitably employed is a question for grape-growers to decide. The simplest form of covering is a board-covered trellis, and for amateur culture or private family use the expense of such covering is not worthy of consideration.

"It is also well known that sulphur applied occasionally during the period of growth will prevent mildew; as a simple statement this has some value, but it is not sufficiently definite to enable the vine-grower to determine the extent or frequency of the applications necessary to secure a crop. Some seasons occur during which there is no necessity to apply remedies, and there is no periodical certainty in any as to when mildew may appear. Could we foresee its approach, so that preventive applications might be made at the proper time, and only at that time, the practice would then be reduced to a definite system, and be proportionately valuable.

"This knowledge can be reached only by a series of exact hygrometric observations made in various grape-growing localities, under the general supervision of an experienced vegetable physiologist. It may be well to remark that the system of training hardy varieties to the top of the trellis, for the purpose of sheltering the more tender and valuable varieties below, has been suggested, and to a certain extent acted upon with favorable results. The ultimate effect of mildew is to check and retard growth, and thereby prevent proper maturity of the wood.

"For all cultural purposes it is sufficiently accurate to assume that the hardness of a grape is simply its immunity from mildew.

"When a grape is said to be too tender for our winters we may safely conclude that, in other words, it is so subject to mildew that the growth fails to reach proper maturity.

"Fruit-growers, above all others, should learn to call things by their proper names.

"I have reason to believe that all the foreign wine grapes would withstand our winters if not checked by mildew during growth. I have exposed matured growths of Black Hamburg, Muscat of Alexandria, Golden Chasselas, the Frontignan, and other foreign varieties, to a frost several degrees below zero, without being injured.

"And all of our native varieties, excepting, of course, strictly southern species, are sufficiently hardy to stand over ordinary winters if kept in health during summer. It is important to keep this in view.

"I have already remarked that downy-leaved grapes are more subject to mildew than those whose leaves are smooth. The Fox family of grapes, *Vitis labrusca*, from which most of our popular cultivated varieties have been produced—such as Isabella, Catawba, Diana, Rebecca, Concord, Iona, Ives's Seedling, &c.—are more subject both to mildew and rot than varieties of the summer grapes, *Vitis æstivalis*, or the frost grape, *Vitis cordifolia*.

"I have long since expressed my conviction that more attention should be given to the improvement of the two last named species for wine grapes than has hitherto been done.

"For northern latitudes the *Vitis cordifolia*, of which the Clinton is a familiar example, is worthy particular attention, not only on account of its intrinsic merits as a wine, and even as a table grape, but as a representative of a class of great hardihood and freedom from disease. Occasionally we may observe mildew on the Clinton, on the upper surface of the foliage, but I have never seen it to obtain sufficiently so as to materially affect growth, and rot in the berry I have never seen. The leaf of this variety is green and smooth on both surfaces.

"For more southern climates the varieties of *Vitis æstivalis* will be suitable; among these may be mentioned Norton's Virginia Seedling, Herbemont, Lenoir, and Cynthiana. These comprise some of our best wine grapes, but require a longer season to attain maturity than many of the Fox family, and will not reach

perfection at the north except in favorable seasons. Some varieties of this class are also our finest table grapes. The leaf of this species is but slightly downy. Some of the varieties of *Vitis labrusca* are the most useful grapes in cultivation; the Concord has for many years attained a supremacy in this respect. The Ives's Seedling has recently presented claims that are beginning to be acknowledged.

"The Hartford Prolific is one of the earliest varieties, and largely cultivated as such; but all of these are popular, simply because they are hardier than otherwise superior varieties of their class; were it not so, we should all most certainly prefer the Adirondack, the earliest of all good grapes; the Catawba, so well known for its excellent qualities; the Iowa, highest flavored in the list; the Rebecca and Maxatawny, white grapes, that, when in perfection, may be compared to a Golden Chasselas; as also several of Rogers's hybrids, which practically may be referred to this class for their main characteristics of growth and habit.

"This section of our native grapes has received more attention than any of the others; the size of the berries and fine appearance of the branches have encouraged a disposition to improvement, and many of the latter seedlings are of superior quality, but they are more subject to disease than are others of the American species. Even in their native habitats the wild fox grapes of the woods will be found suffering from the same rot and mildew so prevalent among their more civilized descendants.

"And here I would remark that a wide field lies open for improving our native grapes; a field that has scarcely been trod upon. I alluded to the hybridization of the native species with each other in contradistinction to the use of the foreign grape for this purpose, which tends to perpetuate the diseases to which the foreign grape is liable in this climate. We have in the Delaware grape an example of what may be expected from this combination of American species—a hybrid between the *Vitis labrusca* and *Vitis æstivalis*.

"It partakes of the tendency to leaf mildew of the former; the freedom from rot in berry of the latter, and a fruit superior to both.

"Great results await us in this direction.

"Place a berry, having the size and fine appearance of the Concord or the Union Village, on the bunch of Norton's Virginia Seedling, or the *Deveraux*, combining all their good qualities, and there is nothing quixotic in the expectation of realizing a fruit that will equal in its magnificent dimensions the famed grape of Syria.

"With regard to the origin of fungoid diseases I have designedly refrained from expressing any emphatic opinion. This question is still a subject of inquiry with botanists, whether it is a cause or consequence of disease. My observations lead me to the conclusion that it is both. One thing, however, is certain, that fruit-growers must sooner or later recognize in fungoid growths their greatest enemy to success. As closely connected with this subject, it may not be out of place here to mention a circumstance that deeply concerns pomologists as a body. I allude to the exceedingly vague and loose, if not untruthful, expressions constantly used in the description of new grapes. I question whether, among all the numerous new varieties that have been introduced during the past fifteen years, any one of them has been described without special mention having been made of its entire exemption from mildew. It is charitable to suppose that this may be true in certain localities, but it is not the whole truth; and to presume that any one variety of fruit, grain, or vegetable esculent can be found to adapt itself equally well over a country whose climates extend from the frigid to the torrid zones, is utterly inconsistent with our knowledge of vegetable economy."

THE WOOL PROSPECT.

An extract from a letter from Medina county, Ohio, thus queries concerning wool:

"Wool sells ruinously low, about 40 cents per pound on an average. In consequence, the farmers are not increasing their flocks, but express a desire to diminish them. Is this wise? Do you see anything in the future to encourage this branch of agriculture? I would like to see an expression of your opinion in the next monthly report."

It is manifestly *unwise* to destroy an interest of such magnitude because circumstances, temporarily existing, have diminished its profits. It is *unwise* to abandon it because its enemies have been able to cripple it by excessive importation during the pendency of the question of its protection. It is an old game, hitherto successful with them, first, to glut the market on the eve of the imposition of a duty, and afterwards to declare the resultant stagnation in prices to be the direct effect of the law. All the mischief has been done that can be done. The most potent element of cure is *time*, in which to consume the immense surplus of foreign wools which were thrown upon the market, primarily for the profit of evading the coming duty, incidentally for the discouragement such influx would bring upon domestic manufacture. Wool-growers who hold on may expect a gradual improvement, which will be sure to follow, unless financial disturbances unexpectedly arise. The following statement of this influx of foreign wool is from the statistical report for 1866, in the volume now in press:

"The country has been flooded with imported unmanufactured wools and woollen goods since July 1, 1865, in anticipation of an increase in the duties, which was so long deferred that a ruinous displacement of domestic wools was the result. The extent of this derangement will be apparent by an exhibition of official figures of wool imports. It will be remembered that the four years of war were necessarily years of excessive importation, amounting to nearly two hundred and fifty-two millions of pounds of wool and twenty-seven millions of shoddy, and that during the last year of that period, 1865, ending three months after the close of the war and six months after such result seemed inevitable, the importation was reduced to forty millions of dutiable wool, and a little more than three millions of free wool from Canada. The reduction should have continued, as we now produce about one hundred and fifteen millions, and can add twenty millions in a single year if the business promises to pay. Instead of such reduction, an enormous increase was made, not only through the fiscal year of 1865-'66, but from July to March, 1867, when the wool tariff went into effect, as follows:

Years.	Dutiable.	Free.	Total.
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
1865.....	40, 372, 075	3, 486, 079	45, 858, 154
1866.....	67, 917, 031	1, 206, 234	69, 123, 265
Excess over 1865.....	.....	.....	23, 265, 111

"Including the shoddy, the increase was nearly twenty-six millions. The imports of the year ending June 30, 1867, were 35,325,151 pounds, costing \$5,770,083; shoddy, 5,086,187 pounds, costing \$516,480. A glut in the wool market was the result, though prices did not decline, because the wool was largely held in bond in expectation of a decrease of future importation by high duties. This was sufficient to prevent a material increase of the low current prices, compelling farmers to await patiently the consumption of these foreign supplies. Nor was this all; manufacturers, as well as farmers, were to suffer by an equally excessive importation of woollens—in fact, an unprecedented influx, *almost*

equalling in a single year the imports of woollens for the entire period of the war, as the following totals will show :

Total for four years ending June 30, 1865.....	\$87, 762, 918
Annual average for four years ending June 30, 1865.....	21, 940, 729
Imports of the year ending June 30, 1866.....	57, 115, 901

"This is a sum equal to the present total valuation of the annual wool clip of the United States. The expectation of obtaining a fair price for wool will be futile until this immense stock of goods is worked off, the old army supplies exhausted, and a normal condition of supply and demand is regained."

Of the fleeces imported in the year ending June 30, 1866, nearly all was in direct competition with our own styles of wool, and about thirty-seven million pounds from Buenos Ayres alone, twenty-five million pounds of which came in at *three cents* duty, and nearly all of it was clothing wool that displaced an equal quantity of the home product. Fine wools, imported in the dirt, came in at less than half the internal revenue taxes upon our own wool growers. The quantity at each rate was as follows :

Pounds.	Value.	Rate of duty.
32, 366, 135	\$3, 522, 417	3 cents.
35, 211, 402	5, 705, 293	6 cents.
8, 529	2, 398	10 cents and 10 per cent.
330, 965	150, 975	12 cents and 12 per cent.

Here is more than we should import in three years, at a rate of duty that was a direct discrimination in favor of foreigners equivalent to the amount of duty which they actually paid. Added to this was the import of woollens, costing in gold fifty-seven millions of dollars, and in greenbacks, with freight and commissions added, fully one hundred millions; the whole requiring as much foreign wool to produce it as the entire importation of *woollens* for *three years* of the war. Can sensible manufacturers and intelligent wool growers expect prosperity till this glut in the market is removed? That it is being removed, since the passage of the wool-tariff law, the falling off in importation shows.

The wool grower should not despair. His business incidentally enriches his farm, while wheat and corn growing impoverishes it, and he is comparatively independent of the freight monopolies which threaten to destroy all profit from bulky farm products. And the price will inevitably prove remunerative if its manufacture shall not be broken down by foreign competition.

The facts of wool and woollen importations, and the history of the woollen manufacture in this country, show that we have arrived at a period when one of two results must follow—either domestic manufactures must mainly occupy the field of domestic supply, or foreign goods will fill the markets of the country, stop the factories, depress sheep husbandry, reduce the price of wheat and other grain by decreasing the number of consumers and increasing the number of competing consumers.

The following extract from the annual report of the statistical division embodies a digest of such history :

"The aggregate importation of woollens for each decade, and the average per year for forty years, ending in 1860, are as follows :

	Aggregate.	Annual average.
Ten years ending in 1830	\$86, 182, 110	\$8, 618, 211
Ten years ending in 1840	129, 336, 258	12, 933, 625
Ten years ending in 1850	109, 023, 552	10, 902, 355
Ten years ending in 1860	282, 682, 830	28, 268, 283
Forty years ending in 1860	627, 224, 750	15, 680, 618

"In 1820, when this importation commenced, manufacturing was at its lowest ebb, the value of its annual product having been reduced to \$4,413,068, by excessive importations after the close of the war of 1812, from \$25,608,788 in 1810, just as foreign traders, aided by American importers, at the close of the late war, and the fall of gold, have seriously impaired both the wool growing and wool manufacturing interests by flooding the country with a vast surplus of foreign woollens. While suffering a series of fluctuations, caused by more or less successful efforts to break down the barriers to over-importation, the progress of manufacturing has been gradual and comparatively regular. In 1830 the product of woollen manufactures had increased to \$14,528,166; in 1840 it was \$20,696,999; in 1850, \$43,207,545; in 1860, \$68,865,963; in 1864 a return of manufacturers, representing about three-fourths of the total number of sets of machinery, made an aggregate of \$120,000,000.

"With the increase of the manufacture of wool, step by step, advanced the production of wool. The census of 1850 made the clip of that year 52,516,959 pounds; that of 1860 returned 60,511,343. The yield of 1864 was estimated at 95,000,000; that of 1866, 115,000,000. The increase of manufacturing and the relative consumption of wool at different periods may be gathered from the following statement, with the qualification that the wool importation of 1865 was less than the consumption of foreign wool for that year, while that of 1866 was far more than that year's consumption. There was also, in round numbers, four millions of pounds of shoddy in the former, and seven millions in the latter year, not counted in the statement:

	1840.	1850.	1860.	1865.	1866.
United States products...lbs..	35,802,114	52,516,969	60,511,343	105,000,000	115,000,000
Imports	15,006,410	18,669,794	34,586,657	40,372,075	67,917,031
Total	50,808,524	71,186,763	95,098,000	145,372,075	182,917,031

"It is not that woollen importations are so much heavier than formerly, in proportion to population. As shown above, the average for forty years, when we manufactured comparatively little, was \$15,680,618. With population doubled and foreign prices at least fifty per cent. greater than twenty-five years ago, \$45,000,000 would not be a larger proportionate importation. Then we manufactured scarcely half the annual consumption; now we manufacture three-fourths, and of most goods can easily manufacture for the entire demand, so that *any* importation tends to drug the market. This is the literal fact, and the future will show how sensitive a full market is to the slightest surplus—just as a few drops will overflow a brimming glass. All the woollens imported in four years of war amounted to but \$87,782,918, or \$21,945,726 annually; actually a less quantity of goods than was bought for \$15,680,618 annually for forty years, commencing in 1821; but in the mean time the products of our mills had grown from four millions of dollars in 1820, to one hundred and fifty or sixty millions in 1864!"

Imports of seven months, as prepared in the Bureau of Statistics of the United States Treasury.

Articles.	January.		February.		March.		Total for three months.			
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.		
<i>Sheep, goats', and camels' hair, and manufactures of.</i>										
Raw and fleeco.....										
Cloths and cassimeres.....	1, 463, 692	\$284, 055	2, 615, 994	\$458, 134	3, 808, 402	\$620, 924	7, 918, 088	\$1, 363, 113		
Waste or shoddy.....	667, 391	1, 009, 991	906, 640	908, 250	450, 100	664, 491	2, 024, 121	2, 612, 732		
Shawls.....	680, 585	65, 946	490, 448	68, 308	524, 218	53, 092	1, 695, 251	187, 436		
Blankets.....		135, 008		299, 354		216, 731		651, 373		
Dress goods.....	41, 393	13, 956	15, 586	4, 102	3, 981	2, 946	60, 965	21, 004		
Manufactures not specified.....	6, 948, 716	2, 015, 013	5, 913, 007	1, 708, 605	3, 285, 568	1, 018, 008	16, 147, 291	4, 801, 716		
		992, 395		1, 139, 675		1, 118, 573		3, 250, 643		
								12, 917, 917		
Articles.	April.		May.		June.		July.		Total for four months.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Raw and fleeco.....										
Cloth and cassimeres.....	4, 646, 851	\$747, 265	3, 666, 487	\$672, 527	4, 462, 513	\$633, 609	2, 798, 221	\$496, 144	15, 574, 072	\$2, 609, 545
Woolen rugs, shoddy, mungo, waste, and flecks.....	375, 443	475, 424	465, 475	579, 508	674, 538	901, 568	1, 130, 072	1, 348, 958	2, 654, 538	3, 305, 458
Shawls.....	223, 179	23, 075	85, 318	13, 878	29, 167	3, 588	50, 237	5, 339	387, 901	45, 880
Blankets.....		116, 585		49, 232		56, 718		142, 924		365, 459
Carpets.....	1, 239	1, 299	7, 160	6, 529	1, 480	2, 561	1, 708	941	11, 587	11, 330
Dress goods.....										
U. S. yards.....	2, 578, 078	784, 369	2, 908, 890	819, 579	3, 305, 953	965, 886	6, 404, 552	1, 981, 794	15, 197, 473	4, 551, 628
Manufactures not specified.....		614, 280		649, 121		438, 577		1, 098, 407		2, 800, 365
Total.....		2, 762, 297		2, 790, 374		3, 062, 507		5, 074, 507		13, 689, 685

AGRICULTURAL STATISTICS OF IRELAND.

The following is the official statement of the result of the annual census of Ireland, taken by the metropolitan police force:

The total acreage under all crops in 1867 was	5,458,945
The total acreage under all crops in 1866 was (revised numbers).....	5,520,568

Showing a decrease in the extent under crops in 1867 of	61,623
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The crops which *diminished* in area this year are:

	Acres.	Acres.
Cereals:		
Wheat	37,282	
Oats	40,283	
Bere and rye	415	
Beans and peas	1,327	
		79,307
Green crops:		
Potatoes	48,808	
Mangel and beet	1,357	
Cabbage	12,510	
Carrots, parsnips, and other green crops	1,267	
Vetches and rape	3,924	
		67,866
Flax		10,402
Total decrease in the foregoing crops		157,575

The crops which *increased* in acreage in 1867 are:

Cereals:	
Barley	20,411
Green crops:	
Turnips	18,513
Meadow and clover	57,028
Total increase on foregoing crops	95,952
Making a <i>net</i> decrease in the area under all crops of	61,623

Compared with 1866, the area under wheat decreased by 37,282 acres, oats by 40,283 acres, bere and rye 415 acres, and beans and peas by 1,327 acres. Barley increased by 20,411 acres. In green crops the area under potatoes diminished by 48,808 acres, and cabbage 12,510 acres. Turnips increased by 18,513 acres.

The following abstracts exhibit the acreage under each crop in 1866 and 1867, and the increase or decrease in the latter year:

ABSTRACT OF CEREAL CROPS.

	1866. Acres.	1867. Acres.	Increase in 1867. Acres.	Decrease in 1867. Acres.
Wheat	299,190	261,908		37,282
Oats	1,699,695	1,659,412		40,283
Barley	150,293	170,704	20,411	
Bere and rye	10,021	9,606		415
Beans and peas	14,834	13,507		1,327
Total	2,174,033	2,115,137	20,411	79,307
				20,411
Decrease in cereal crops in 1867				58,896

ABSTRACT OF GREEN CROPS.

	1866.	1867.	Increase in 1867.	Decrease in 1867.
Potatoes.....	1,050,353	1,001,545	.....	48,808
Turnips.....	317,193	335,711	18,513	.....
Mangel-wurzel and beet root.....	20,162	18,805	.....	1,357
Cabbage.....	36,531	24,021	.....	12,510
Carrots, parsnips, and other green crops.....	26,738	25,471	.....	1,267
Vetches and rape.....	30,623	26,699	.....	3,924
Total.....	1,481,605	1,432,252	18,513	67,866
				18,513
Decrease in green crops in 1867				49,353

GENERAL SUMMARY OF CEREAL AND GREEN CROPS, ETC.

	Acres.
Decrease in cereal crops in 1867.....	58,896
Decrease in green crops in 1867.....	49,353
Decrease in flax in 1867.....	10,402
	118,651
Increase in meadow and clover in 1867.....	57,028
Total decrease in the extent of land under crops in 1867	61,623

From the foregoing statement it will be seen that there has been a decrease of 61,623 acres in the total area of land under crops in 1867, compared with 1866. Grass has increased by 52,828 acres, fallow by 772 acres, bog and waste (unoccupied) by 13,176 acres. Woods and plantations show a decrease of 5,153 acres.

The returns of live stock for 1867, compared with 1866, show a decrease in the number of horses of 13,451; of cattle, 43,799; and of pigs, 263,381; and an increase in the number of sheep of 551,733. This increase in sheep is spread over every county in Ireland.

The *total estimated* value of horses, cattle, sheep, and pigs, this year, was £35,095,224, being a decrease of £114,491, compared with 1866.

Mr. Donnelly here repeats the observation made when submitting the general abstracts of tillage and live stock for last year: "There is great cause for thankfulness to a merciful Providence that Ireland has hitherto been almost entirely free from the distressing ravages of the cattle plague, by which almost every county in England and Scotland has so deeply suffered;" and he concludes as follows: "I have again the pleasure to state that, with scarcely an exception, the particulars given in the returns have been readily afforded to the enumerators by the various stock-owners and occupiers of land, which I beg to say is highly creditable to their good feeling and intelligence; and I have now to repeat my respectful acknowledgments to the landed proprietors, tenant farmers, the clergy of all denominations, and to the public press, for their continued valuable assistance with reference to the collection of these statistics."

PRICES OF ENGLISH SHEEP.

Southdowns.—A large sale of this popular breed of sheep recently took place at Beddington, England. The flock embraced nearly 700 head, and belonged to Mr. Elman, the well-known breeder of Southdowns. While the prices realized show a slight decline, the sales aggregated over \$15,000, as follows: 500 ewes at an average of \$19 84; 100 lambs at \$12 87; 25 rams at \$71 18; 15 rams at \$124 60. Five full-mouthed ewes brought \$50 each, and five \$42 50

each; five shearling ewes, \$32 50 each; five four-toothed ewes, \$26 25 each; five six-toothed ewes, \$43 75 each; five ewe lambs, \$18 75 each. The rams ranged from \$56 to \$336, and the ram lambs at from \$35 to \$301.

Shropshires. At a recent "ram-letting" at Uffington, Mr. Evans's highly-commended shearling at Bury St. Edmunds was let to Mr. Masfen for \$595. The first prize shearling from the same flock to Mr. Beach for \$420; the second prize to Mr. Horley for \$315; Mr. Mansell's prize two-shear to Mr. Smith for \$539. Lord Chisham also hired Mr. Smith's highly-commended sheep at Bury for \$280. Mr. Crane let two shearlings for \$280 and \$252 respectively. The Uffington three-shear sheep, the third prize at the royal meeting, was also said to be let for \$665. At the sale of Mr. Masfen's Shropshire sheep at Pendeford, 50 rams averaged over \$75 each, prices running as high as \$280 for the best. Seventy-five stock ewes and theaves were sold in lots of five at figures ranging from \$13 75 to \$39 25 each.

THE ENGLISH WHEAT HARVEST.

The wheat yield of England is light this year. As threshing progresses, the deficit becomes more apparent. The quality is variable, the weight running from fifty-five to sixty-four pounds, much of it under sixty pounds per bushel. The deficiency will be greater than at first supposed. The imports into London for four weeks in September were 1,318,592 bushels, against 474,840 bushels during the same time last year. The entire imports of the United Kingdom for the four weeks ending September 14, were 2,998,037 cwt. wheat, and 184,297 cwt. flour. Russia, as heretofore, furnishes the larger portion.

France will also be in the wheat market for large purchases this year. Any surplus the United States can furnish will be taken in Europe, at rates remunerative to our farmers.

THE WHEAT TRADE OF THE WORLD.

A recent French calculation gives the price of wheat per quintal in various countries and at various points, as follows: France, 35f. 59c.; Algiers, 32f.; Bona, (Algeria,) 34f. 50c.; Brussels, 38f.; Antwerp, 34f.; Bruges, 40f.; Namur, 37f.; Cologne, 34f.; Frankfort, 31f.; Rotterdam, 42f. 85c.; Geneva, 33f. 50c.; Turin, 31f.; Liverpool, 36f. 25c.; London, 37f. 75c.; St. Petersburg, 26f.; Odessa, 29f. 70c.; New York, 29f. 75c.; and Valladolid, (Spain,) 32f. 50c. The highest price would thus appear to have prevailed at Rotterdam, and the lowest at Odessa.

AMERICAN WHEAT IN ENGLAND.

Consul Geo. J. Abbot, of Sheffield, England, writes thus to this department concerning grain imports from this country: "It is stated in the *Times* that of the wheat importations during the month of August, amounting to 3,295,622 cwt., forty per cent. was supplied by Russia, and nineteen per cent. by Prussia. The United States stand next, our proportion being ten per cent., thus indicating a commencement of the promised revival of this branch of American trade. Last year, in July, the United States sent only 8,000 cwt., but in August of this year there were sent 337,224 cwt."

METEOROLOGY.

[Compiled in the Department of Agriculture from the reports made by the observers for the Smithsonian Institution.]

SEPTEMBER, 1867.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature and amount of rain, (in inches and tenths,) for September, 1867, at the following places, as given by the observers named. Daily observations were made at the hours of 7 a. m. and 2 and 9 p. m.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MAINE.								
Steuben	Washington	J. D. Parker	19	74	19	30	55.5	2.60
Lee	Penobscot	B. H. Towle	5	74	15	34	55.1	0.05
West Waterville	Kennebec	B. F. Wilbur	4	75	30	35	58.2	0.78
Gardiner	do	R. H. Gardiner	4	69	30	38	57.1	0.97
Lisbon	Androscoggin	Asa P. Moore						0.97
Standish	Cumberland	John P. Moulton	6	77	24	36	58.4	2.13
Rumford Point	Oxford	Waldo Pettingill	6, 29	74	24	30	57.6	0.85
Cornish	York	Silas West	5	76	24	34	57.3	1.26
Cornishville	do	G. W. Guptill	20	74	30	33	58.4	0.92
Averages							57.2	1.17
NEW HAMPSHIRE.								
Stratford	Coos	Branch Brown	6	79	24	28	53.0	3.04
North Barnstead	Belknap	C. H. Pitman	2	78	30	38	61.0	0.88
Claremont	Sullivan	Arthur Chase	18	80	15	33	58.0	2.10
Averages							57.3	2.01
VERMONT.								
North Craftsbury	Orleans	Edward P. Wild	18	81	24	28	55.2	3.56
Randolph	Orange	Charles S. Paine	18	88	24	35	56.5	1.73
Middlebury	Addison	H. A. Sheldon	18	77	27	34	56.7	2.45
Averages							56.1	2.58
MASSACHUSETTS.								
Kingston	Plymouth	G. S. Newcomb	4, 6, 7, 10, 18, 19	76	30	38	61.7	3.25
Topsfield	Essex	S. A. Merriam	4	78	30	42	61.7	0.50
Lawrence	do	John Fallon	18	75	15	38	59.2	0.82
Georgetown	do	S. Augs. Nelson	2	76	24, 30	40		
Newbury	do	John H. Caldwell	13	81	24	37	59.3	
Milton	Norfolk	Rev. A. K. Teele	6, 13	78	30	38	59.6	0.50
North Billerica	Middlesex	Rev. E. Nason	18	80	24	36	60.2	
West Newton	do	John H. Bixby	2, 6, 7, 13, 18	82	30	40	61.2	1.10
New Bedford	Bristol	Samuel Rodman	7, 17	74	30	40	61.6	2.42
Worcester	Worcester	John Cotton	18	77	24, 30	40	61.2	1.97

Table showing the range of the thermometer, &c., for September—Continued.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	RAIN.
MASS.—Continued.								
Mendon	Worcester	J. G. Metcalf, M. D. .	4, 18, 20	76	24	34	60.5	0.90
Amherst	Hampshire	Prof. E. S. Snell . . .	17	80	28	39	59.9	1.10
Williams College . .	Berkshire	Prof. A. Hopkins . . .	18	82	24	35	59.2	1.20
Averages							65.9	1.53
RHODE ISLAND.								
Newport	Newport	Wm. H. Crandall . . .	17	88	30	40	61.1	2.30
CONNECTICUT.								
Pomfret	Windham	Rev. D. Hunt	18	75	30	38	58.7	0.77
Columbia	Tolland	Wm. H. Yeomans . . .	17	94	30	36	63.8	.....
Middletown	Middlesex	Pf. J. & W. A. Johnston	17	85	24	39	62.8	2.83
Groton	New London . . .	Rev. E. Dewhurst . .	17	86	24	44	55.6	2.22
Averages							60.2	1.94
NEW YORK.								
Moriches	Suffolk	E. A. Smith & daugh's	17	88	24	45	68.3	1.50
Troy	Rensselaer	Jno. W. Heimstreet . .	18	83	24, 30	41	62.1	0.15
Germantown	Columbia	Rev. S. W. Roe	17	90				
Garrison's	Putnam	Thomas B. Arden . . .	5	84	30	40	60.0	2.84
Throg's Neck	Westchester	Miss E. Morris	5, 17	84	30	42	67.0	.....
Deaf and Dumb Inst.	New York	Prof. O. W. Morris . .	19	83	30	43	64.2	0.78
Columbia College . .	do	Prof. Chas. A. Joy . .	17	83	30	44	64.3	0.25
St. Xavier's College .	do	Rev. J. M. Aubier . . .	17	84	30	45	64.0	1.00
Flatbush	King's	Eli T. Mack	19	83	29	46	68.1	1.08
Newburgh	Orange	James H. Gardiner . .	4, 13, 17, 18	80	30	42	62.1	1.87
Minaville	Montgomery	Prof. D. S. Bussing . .	6, 17, 18	76	30	41	60.6	.....
Gouverneur	St. Lawrence	C. H. Russell	18, 23	83	15	38	59.6	2.76
North Hammond . . .	do	C. A. Wooster	18	88	24	36	57.0	1.10
South Trenton	Oneida	Storrs Barrows	17, 18	88	27	32	60.4	5.18
Cazenovia	Madison	Prof. Wm. Soule . . .	18	89	30	35	59.9	.....
Oneida	do	S. Spooner, M. D. . . .	18, 20	88	30	35	60.2	5.67
Houseville	Lewis	Walter D. Yale	18	86	30	32	56.0	2.48
Depauville	Jefferson	Henry Haas	6	88	30	37	60.0	0.57
Theresa	do	S. Gregory						1.97
Oswego	Oswego	Wm. S. Malcolm . . .	18	84	23, 27, 30	42	60.0	2.19
Palermo	do	E. B. Bartlett	6	87	30	33	59.7	2.30
Nichols	Tioga	Robert Howell	6	84	30	35	49.1	.....
Geneva	Ontario	Rev. Dr. W. D. Wilson	20	88	27	41	61.9	0.09
Rochester	Monroe	M. M. Mathews, M. D.	18, 20	85	30	35	60.5	2.28
Rochester University	do	Prof. C. Dewey	18	86	30	36	60.5	2.28
Little Genesee	Allegany	Daniel Edwards	18	88	30	31	51.4	2.02
Suspension Bridge . .	Niagara	W. Martin Jones . . .	20	89	27	35	60.7	1.90
Buffalo	Erie	Wm. Ives	5	87	30	35	62.1	2.35
Averages							60.8	1.94
NEW JERSEY.								
Paterson	Passaic	Wm. Brooks	5	87	24	42	65.3	0.57
Newark	Essex	W. A. Whitehead . . .	19	83	24, 27	44	64.3	1.23
New Brunswick	Middlesex	Geo. H. Cook	17	84	24	42	64.4	0.34
Trenton	Mercer	E. R. Cook	19	83	15	50	65.0	3.47
Burlington	Burlington	John C. Deacon . . .	19	82	27	45	65.1	1.40

Table showing the range of the thermometer, &c., for September—Continued.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
NEW JERSEY—Con.				o		o	o	<i>In.</i>
Moorestown	Burlington	Thomas J. Beans	4, 17, 19	85	30	42	65.6	1.31
Mount Holly	do	M. J. Rhees, M. D.	17, 19	82	27	45	65.3	.....
Seaville	Cape May	Barker Cole	17	90	28	40	64.3	2.00
Dover	Morris	Howard Shriver	17	81	30	41	62.4	0.01
Haddonfield	Camden	Samuel Wood	19	84	27	45	67.9	3.04
Greenwich	Cumberland	R. C. Sheppard	5, 19	86	27, 30	46	66.8	1.40
Vineland	do	John Ingram, M. D. . .	19	87	27	39	66.7	2.35
Averages							65.3	1.56
PENNSYLVANIA.								
Nyces	Pike	John Grathwohl	17, 18	88	30	34	61.0	0.40
Fallsington	Bucks	Eben'r Hance	19	83	24, 27, 28	48	65.3	1.20
Philadelphia	Philadelphia	Prof.J.A.Kirkpatrick ..	19	86	30	46	67.8	1.85
Germantown	do	Thomas Meehan	4	87	30	44	67.2	.....
Horsham	Montgomery	Anna Spencer	17, 19	82	30	43	64.1	1.71
Dyberrv	Wayne	Theodore Day.....	18	86	24	33	59.1	.....
North Whitehall	Lehigh	Edward Kohler.....	19	82	24	39	63.1	.....
Reading	Berks	J. Heyl Raser.....	19	88	27	42	65.0	.....
Ephrata	Lancaster	W. H. Spera	19	89	29, 30	50	68.4	1.25
Mount Joy	do	J. R. Hoffer.....	19	95	27	44	67.3	.....
Harrisburg	Dauphin	John Heisely, M. D. . .	19	84	27, 30	49	66.8	2.47
Ickesburg	Perry	Wm. E. Baker	18, 19	90	30	37	64.1	2.23
Lewisburg	Union	Prof. C. S. James....	18	83	27	39	62.1	3.13
Tioga	Tioga	E. T. Bentley	17, 18, 20	90	30	30	64.3	1.30
Pennsville	Clearfield	Elisha Fenton	18, 20	86	27	31	59.4	1.50
Connellsville	Fayette	John Taylor.....	16, 20	92	30	36	65.0	.....
New Castle	Lawrence	E. M. McConnell	20	90	27	38	65.0	.....
Canonsburg	Washington	Rev.W. Smith, D.D. . .	17, 20	92	11	38	64.9	1.15
Averages							64.4	1.65
MARYLAND.								
Woodlawn	Cecil	Jas. O. McCormick ..	18	87	27	43	67.1	1.41
Catonsville	Baltimore	George S. Grape... ..	19	82	30	48	66.0	.....
Annapolis	Anne Arundel	Wm. R. Goodman.....	5, 19	86	27, 30	50	70.3	1.91
Emmitsburg	Frederick	Eli Smith	19	94	30	40	67.9	.....
Mt. St. Mary's Coll..	do	Prof.C. H. Jourdan ..	19, 20	82	30	44	64.4	1.36
St. Inigoes	St. Mary's	Rev. J. Stephenson...	20	91	30	51	72.5	1.33
Averages							68.0	1.50
VIRGINIA.								
Cape Charles L. H..	Northampton	Jean G. Potts.....	19	96	30	59	74.7	3.98
Surry C. H.	Surry	B. W. Jones	20	96	30	46	75.1	0.00
Hewlett's.....	Hanover	J. F. Adams	20	93	30	47	71.0	0.37
Lynchburg	Bedford	Chas. I. Merriwether..	19	86	25	55	.....	.....
Comon	King George	George Tayloe .....	.....	.....	.....	.....	.....	0.71
Snowville	Pulaski	J. W. Stalmaker	9, 17	86	30	38	65.5	6.00
Averages							71.6	2.21
WEST VIRGINIA.								
Romney	Hampshire	W. H. McDowell....	18, 20	92	11, 24, 30	48	68.0	.....
Grafton	Taylor	W. H. Sharp, M. D. . .	18	96	27, 28, 30	45	71.3	0.75
Cabell C. H.	Cabell.....	C. L. Roffe.....	17, 19, 25	88	11, 22	52	73.2	0.10
Averages							70.8	0.43

Table showing the range of the thermometer, &c., for September—Continued.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
NORTH CAROLINA.								
Goldsboro'.....	Wayne.....	E. W. Adams, A. M..	21	91	30	58	74.0	8.74
Oxford.....	Granville.....	Wm. R. Hicks, M. D.	19	86	11, 25	60	72.3	10.00
Raleigh.....	Wake.....	Rev. F. P. Brewer.....	19	94	30	50	73.1	1.70
Albemarle.....	Stanley.....	F. J. Kron.....	19	95	25, 30	53	71.9	4.80
Statesville.....	Iredell.....	Thos. A. Allison.....	19, 20	90	24	50	67.0	2.00
Asheville.....	Buncombe.....	E. J. Aston.....	19	86	27	53	68.2	.....
Averages.....							71.1	5.45
SOUTH CAROLINA.								
Aiken.....	Barnwell.....	John H. Cornish.....	20	90	1	64	73.0	4.26
Gowdysville.....	Union.....	Charles Petty.....	20	89	25	59	73.1	.....
Averages.....							73.1	4.26
ALABAMA.								
Fish River.....	Baldwin.....	W. J. Van Kirk.....	10, 20, 22	88	30	64	78.2	5.20
Opelika.....	Lee.....	J. H. Shields.....	20	88	1, 25	68	76.1	.....
Green Springs.....	Hale.....	J. W. A. Wright.....	15	91	28	63	77.4	1.77
Averages.....							77.1	3.49
FLORIDA.								
Jacksonville.....	Duval.....	A. S. Baldwin.....	3, 10	93	26	73	80.8	14.60
Port Orange.....	Volusia.....	J. M. Hawks, M. D..	3	88	15	73	80.4	.....
Averages.....							80.6	14.60
TEXAS.								
Columbia.....	Brazoria.....	Hennell Stevens.....	9, 15	94	24, 29	70	79.8	5.64
Waco.....	McLellan.....	Edw. Merrill, M. D..	15	98	24	62	79.6	1.80
Austin.....	Travis.....	J. Van Nostrand.....	30	94	11	65	78.4	6.41
Averages.....							79.3	4.62
MISSISSIPPI.								
Grenada.....	Yalabusha.....	Albert Moore.....	{ 14, 15, 17 18, 19, 27 }	90	23	61	.....	.....
Natchez.....	Adams.....	Wm. McCary.....	20	86	23	66	74.1	2.55
TENNESSEE.								
Tusculum College.....	Greene.....	S. S. and Rev. W. S. Doak.	19	89	30	55	71.2	.....
Lookout Mountain.....	Hamilton.....	Rev. C. F. P. Bancroft	20	91	30	62	74.0	.....
Clarksville.....	Montgomery.....	Prof. Wm. M. Stewart	19	91	11, 30	52	71.9	0.55
Franklin.....	Williamson.....	Jos. M. Parker.....	19	96	23	54	75.0	0.00
Memphis.....	Shelby.....	Edw. Goldsmith.....	19, 20	92	10, 30	60	75.5	2.23
Averages.....							73.5	0.93
KENTUCKY.								
Chilesburg.....	Fayette.....	Sam'l D. Martin, M. D.	17, 18	96	30	44	70.4	1.17
Louisville.....	Jefferson.....	Mrs. L. Young.....	19, 20	95	11, 12	46	72.0	1.00
Averages.....							71.2	1.09
OHIO.								
New Lisbon.....	Columbiana.....	J. F. Benner.....	18	95	28	36	66.3	0.21
Staubenville.....	Jefferson.....	Roswell Marsh.....	20	94	30	43	.....	0.30

Table showing the range of the thermometer, &c., for September—Continued.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
OHIO—Continued.								
Cleveland	Cuyahoga	Mr. & Mrs. G. A. Hyde	9	88	27, 30	39	63.7	1.38
Wooster	Wayne	Martin Winger	17	92	11, 30	44	68.7	.....
Kelley's Island	Erie	Geo. C. Huntington	17	89	30	47	66.8	0.84
Norwalk	Huron	Rev. A. Newton	5, 16, 18	90	30	37	67.7	0.18
Greenwich	do	M. M. Marsh, M. D.	16	94	30	40	66.5	0.24
North Fairfield	do	O. Burras	17, 18	94	30	42	71.5	.....
Marion	Marion	H. A. True, M. D.	17	89	30	39	64.4	0.61
Toledo	Lucas	J. B. Trembly, M. D.	5	88	27	39	62.4	2.00
Kenton	Hardin	C. H. Smith, M. D.	19	100	10, 13	55	73.7	2.00
Urbana University	Champaign	M. G. Williams	19	91	30	42	68.1	0.32
Hillsboro'	Highland	J. McD. Mathews	20	88	30	42	67.1	0.30
Bethel	Clermont	Geo. W. Crane	19	93	30	40	68.0	0.50
Cincinnati	Hamilton	R. C. Phillips	19, 20	94	11	52	74.4	0.65
College Hill	do	John W. Hammitt	19	97	30	45	72.1	.....
Averages							68.1	0.73
MICHIGAN.								
Monroe City	Monroe	Miss F. E. Whippley	17	94	30	38	65.7	.....
State Agricult'l Col.	Ingham	Prof. R. C. Kedzie	17	87	30	27	56.6	1.41
Litchfield	Hillsdale	R. Bullard	16, 17	87	30	36	61.9	1.73
Grand Rapids	Kent	E. S. Holmes, D. D. S.	17	91	30	36	64.7	.....
Northport	Leelenaw	Rev. Geo. N. Smith	16	86	26	42	60.0	.....
Otsego	Allegan	Milton Chase, M. D.	19	92	30	40	64.0	.....
Copper Falls	Keweenaw	Dr. S. H. Whittlesey	16	78	29	30	53.2	8.30
Ontonagon	Ontonagon	Edwin Ellis, M. D.	16, 17	80	30	36	56.4	.....
Averages							60.3	3.81
INDIANA.								
Aurora	Dearborn	Geo. Sutton, M. D.	19	97	30	43	71.8	0.88
Vevay	Switzerland	Chas. G. Boerner	19	98	30	42	74.0	0.77
Muncie	Delaware	G. W. H. Kemper, M. D.	17, 19	92	30	40	67.2	0.25
Spiceland	Henry	William Dawson	19	93	30	42	67.5	0.59
Merom	Sullivan	Thos. Holmes	25	89	30	45	69.6	2.70
New Harmony	Posey	John Chappell Smith	19	90	30	50	71.8	0.65
Averages							70.3	0.96
ILLINOIS.								
Chicago	Cook	Samuel Brookes	17	97	30	50	67.6	.....
Do	do	J. G. Langguth, jr.	17	92	11, 30	51	67.9	0.57
Golconda	Pope	W. V. Eldredge	19	98	22	50	75.7	0.60
Aurora	Kane	A. & E. D. Spaulding	17	88	30	42	63.2	2.54
Sandwich	De Kalb	N. E. Ballou, M. D.	18	91	30	38	63.6	1.80
Ottawa	La Salle	Mrs. E. H. Merwin	19	96	30	44	67.5	0.11
Winnebago	Winnebago	J. W. & Miss Tolman	17	90	30	34	63.4	1.53
Hennepin	Putnam	Smiley Shepherd	17	93	30	37	67.0	.....
Rochelle	Ogle	Daniel Carey	17	92	30	36	64.0	.....
Wyanet	Bureau	E. S. & Miss Phelps	17	91	30	40	68.0	1.36
Tiskilwa	do	Verry Aldrich	16	88	30	36	64.2	.....
Elmira	Stark	O. A. Blanchard	19	90	30	39	65.7	0.82
Peoria	Peoria	Frederick Brendel	19	92	30	45	68.1	0.60
Springfield	Sangamon	G. M. Brinkerhoff	20	98	30	43	67.3	.....
Loami	do	Timothy Dudley	18	94	30	37	69.2	.....
Waterloo	Monroe	H. Künster	18	95	10, 30	53	75.8

Table showing the range of the thermometer, &c., for September—Continued.

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Table showing the range of the thermometer, &c., for September—Continued.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MISSOURI.								<i>In.</i>
St. Louis'	St. Louis.....	G. Engelmann, M. D.	18	91	30	45	71.7	0.28
Allenton	do	A. Fendler	19	100	11, 30	41	69.2	0.52
Hermitage	Hickory	Miss Belle Moore ..	4	99	30	41	71.5	0.13
Rolla	Phelps	H. Ruggles	14, 19	91	11	38	61.3	0.26
Harrisonville	Cass	John Christian	29	96	11	46	67.1	5.23
Averages							68.2	1.28
KANSAS.								
Atchison	Atchison	Dr. H. B. & Miss Horn	8	96	10	44	69.1	1.75
Holton	Jackson	Dr. James Watters..	8	97	6	49	69.4	.....
Council Grove	Morris	A. Woodworth, M.D.	8	96	10	42	69.1	2.35
Baxter Springs	Cherokee	Ingraham & Hyland	13, 14	98	10	40	73.9	0.10
Averages							70.4	1.43
NEBRASKA.								
De Soto	Washington	Charles Seltz	16	93	6	46	66.1	1.82
Glendale	Cass	Dr. A. L. & Miss Child	12	95	9	41	66.5	1.55
Averages							66.3	1.69
UTAH TER.								
Great Salt Lake City	Great Salt Lake	W. W. Phelps	4, 6	86	16, 17, 20	44	67.4	1.07

NOTES OF THE WEATHER, SEPTEMBER, 1867.

Wolfville, Nova Scotia.—September 11.—First white frost.

Gardiner, Maine.—The amount of rain during September was two inches less than the average of the month for twenty-nine years, and the mean temperature was 1.44 below the average. There is no record where the extreme heat of the month has not exceeded the present. On the last day of the month snow fell for an hour, a most unusual occurrence.

Cornish, Maine.—September 30.—Snow fell to-day with rain and hail. On the northerly side of the buildings the ground is white, and close to them the snow is an inch deep. The snow remained on the ground all day close to houses.

Steuben, Maine.—September 15.—Very heavy frost this morning, killing vines.

West Waterville, Maine.—September 15.—Frost, not severe enough to kill vines; none in the garden of the observer. 24th, first frost to nip vegetation generally.

Lisbon, Maine.—September 29.—After a fine, pleasant day, at about midnight, the wind shifted suddenly to the northeast, and a regular northeast storm set in, blowing heavily, accompanied with rain, hail, and snow, lasting till 3 p. m. of the 30th, then northwest wind, blustering, cold, and squally.

South Antrim, N. H.—September 30.—Considerable snow fell with the rain to-day, but it did not lie on the ground.

Claremont, N. H.—September 11.—Slight frost, first of the season.

Randolph, Vt.—September 30.—There have been frequent frosts during the month, but there is still much tender vegetation left untouched.

Craftsbury, Vt.—September 30.—The first snow of the season, only a slight sprinkling.

Worcester, Mass.—September 30.—Slight flurry of snow about 2 p. m.

New Bedford, Mass.—September 30.—No frost yet in this locality.

North Billerica, Mass.—September 15.—Heavy frost last night, killing vines, &c. 20th, maples turning slowly, forests still quite green. 30th, north-east rain storm, a little hail in the morning.

Kingston, Mass.—September 24.—First frost to do any damage.

Georgetown, Mass.—September 30.—Snow fell several times to-day, a few flakes at a time.

Pomfret, Conn.—September 24.—Frost, not a killing one.

Groton, Conn.—September 25.—Heavy squall about 5 o'clock, lasting about fifteen or twenty minutes, with lightning, thunder, and hail.

Rochester, N. Y.—September 24.—Slight frost in and about the city. 30th, the mean temperature of the month is the same as the average of September for thirty-one years. The amount of rain is an inch less than the average.

Newburg, N. Y.—Violent gale in the night of the 23d, doing considerable damage to vessels along the docks.

Troy, N. Y.—September 25.—Slight shower from 3.40 to 3.50 p. m.

New York, N. Y.—September 25.—Thunder shower from 3.40 to 4.35 p. m. from west to east; not much lightning or thunder.

Buffalo, N. Y.—September 24.—Frost reported outside the city. 27th, frost, injuring only the tenderest plants. 30th, the mean temperature of the month was a degree and a half higher than the average for the last nine years. The rain was two inches less than the average for the same period.

North Hammond, N. Y.—September 6.—Hurricane at 4 p. m.; wind and rain with great violence; trees and fences blown down.

Depauville, N. Y.—September 30.—There were frequent showers during the month, but light and of short duration. The drought is now quite severe, most of the streams have ceased to run, and many wells are failing, and in consequence many farmers are digging new or deepening old wells. The occurrence of aurora borealis was more frequent than usual; it was observed on every

night from the 19th to the 26th. White frost occurred on three nights, but did no injury to vegetation.

Garrison's, N. Y.—September 25.—Thunder storm from the northwest from 3 to 5 p. m. A heavy gale from the northwest set in at 9½ p. m. and continued through the night, accompanied with a very small fall of rain.

Tioga, N. Y.—September 24.—First hard, killing frost.

Moriches, N. Y.—September 24.—Slight frost, the first this autumn.

Dover, N. J.—September 25.—A storm from the west at 3½ p. m., with lightning and thunder.

Trenton, N. J.—September 25.—Heavy thunder shower and hail storm from northwest at 4 p. m., continuing half an hour.

Newark, N. J.—The quantity of rain was only about one-half the mean of the month in the last twenty-four years, a smaller quantity being recorded in only two Septembers during that period. The mean temperature was nearly half a degree above the average. There was no frost during the month.

Haddonfield, N. J.—September 25.—First frost seen this morning; it did but little damage. A severe hail storm occurred here this afternoon at 4.15, lasting about fifteen minutes. Some of the hail-stones were an inch long and three-quarters of an inch thick, and of the shape of a flattened cone; at one time they covered the ground.

Philadelphia, Penn.—September 25.—At 3.45 p. m., thunder and lightning; at 4.10, a heavy rain commenced, mingled with hail, wind north-northwest. Some of the hail-stones were an inch and a quarter in diameter, generally spherical, some of them flattened; some of them were shaped like rings, filled up with ice in the centre, and some like broken pieces of ice cemented together. The color was generally white; some, however, were as clear as glass. Thousands of window lights were broken during the five minutes of the continuance of the hail. At 4.15 the hail stopped; the rain continued until 4.30 p. m.

Reading, Penn.—September 25.—Clouded over rapidly after 2 p. m. Considerable thunder and vivid lightning. Commenced raining at 3.08 p. m., followed by a remarkable hail-storm. The ground was white with hail-stones, many the size of large walnuts and some much larger. [Drawings of three of them are given on the register.] The storm raged fearfully for five minutes. Wind from northwest, and blew a strong gale at times. Commenced clearing about 4 p. m., wind north, and very cool. Evening clear, cloudless, and almost calm.

Horsham, Penn.—September 25.—Thunder storm from 3.45 to 4.15 p. m.; heavy rain and some hail; hail-stones as large as peas, but not very numerous.

Grampian Hills, Penn.—September ends with the ground exceedingly dry. From the 7th to the 20th there were light showers; the remainder of the month almost without rain. The first frost to sensibly injure vegetation was on the 27th.

Dyberry, Penn.—Several light frosts during the month, which damaged late corn and buckwheat in some places.

Ephrata, Penn.—September 24.—First frost of the season.

Ickesburg, Penn.—September 24.—Frost on rails, low roofs, and timber lying on the ground. Number of days without any frost, 121; that is, from May 25 to September 24, exclusive of both days. Number of days in 1866 without frost, 140, from May 5 to September 23.

Emmitsburg, Md.—September 24.—Light frost this morning.

Cape Charles Light-house, Va.—September 29.—After three very pleasant and nearly calm days, the wind suddenly shifted to the northwest about 11.20 p. m., and at 3 a. m. on the 30th it almost blew a hurricane for about two hours, when it abated to a gale.

Grafton, West Va.—September 27.—First frost.

Attaway Hill, N. C.—September 20.—Severe thunder storm from 5 p. m. to 10 p. m. Trees were struck and shivered at short distances of space and time, and

the torrents of rain swelled every branch and creek to overflowing; amount of rain 2.40 inches.

Jacksonville, Fla.—September 30.—A larger amount of rain has fallen this month than for several previous years. The country is literally under water. The tides of the river are higher than ever known before except during severe gales; the water is over many parts of the front streets of the city. Such is the amount of fresh water pouring over the bar of St. John's river, that it is fresh water for two or three miles at sea, as the observer is informed by the bar pilots.

Port Orange, Fla.—There has been an average of one shower daily during the month. It rained continuously on the 28th and 29th. So much rain has not fallen in this county for twenty years or more.

Grenada, Miss.—Only three light showers of rain during the month.

Chilesburg, Ky.—September 19.—Ground dry and parched. 20th, a most violent thunder storm passed from the north a few miles east of this place, and it is now (9.40 p. m.) almost a continual roar of thunder in the southeast. The wind was very strong here, and very little rain. Thunder continued nearly all night. 30th, weather still very dry; the ground preparing for wheat breaks up in large clods.

Franklin, Tenn.—September 30.—All vegetation suffering severely from the drought; pastures are parched, and small-water courses, springs, &c, dried up.

Clarksville, Tenn.—September 30.—The drought which has existed for six weeks has been very severe on vegetation, and it still continues. The cisterns, ponds, and smaller streams are drying up and there is difficulty in watering stock.

Hillsboro', Ohio.—Only three-tenths of an inch of rain in September; the small quantity the observer ever measured in one month.

Urbana, Ohio.—The quantity of water in September was only thirty-two hundredths of an inch, which is less than for any month since the observer commenced his record in Urbana. The average for September is about four and a half inches. In September of last year the amount was nearly sixteen inches. The degree of cloudiness is less than for any month of the year since 1850, and the number of entirely clear days (eight) is less than for any other year since 1850, except 1862, when the number was the same. The mean temperature was five degrees above the average for September.

New Lisbon, Ohio.—September 30.—The month has been very dry; pasture is nearly all dried up and burnt brown.

College Hill, Ohio.—Less thunder and lightning this season than for many years.

Ripley, Ohio.—September 30.—The drought is intense, and scarcely any dew has been deposited for the last five or six weeks. There have been but two frosts in this vicinity, but almost every green thing has disappeared. Stock on this farm has been fed for the last six weeks the same as in mid-winter.

Fairfield, Ohio.—Not a drop of rain this month.

Kelley's Island, Ohio.—September 30.—The drought still continues; the grass is as dry and brown as in mid-winter. The rain-fall during the past season (June to September, inclusive) has been less than one-half the average of the same months for the last nine years, and about twenty-five per cent. less than the previous driest season (1863) during that period.

Northport, Mich.—September 30.—This has been an exceedingly fine month. No frost yet; potatoes, tomatoes, vines, and all tender plants are as green as a month ago.

Lansing, Mich.—On the night of the 26th the frost killed all vegetation susceptible to the effects of autumn freezing.

Grand Rapids, Mich.—September 30.—First heavy frost of the season last night. It killed potatoes, melons, petunias, &c.

Litchfield, Mich.—September 30.—Ice in out-door dishes a sixteenth of an

inch thick ; garden vegetation all killed. Springs are lower than they have been for ten years.

Vevay, Ind.—September 30.—The country is greatly suffering from want of rain. Farmers are unable to put in their crops of winter wheat. There is not a green blade of grass to be seen on the surrounding hills. The Ohio river is lower than for many years, and every spring and creek is dried up.

Aurora, Ind.—September 30.—From the long continued drought all vegetation in this section of the country is suffering. The leaves on the trees and shrubs look withered. The grass in the pastures and stubble fields is dry and parched. The Ohio river is at its lowest mark. For the last two weeks it has been varying in depth at the rising bar, a few miles below Aurora, between thirty and forty inches.

Spiceland, Ind.—September 19.—At 2 p. m. the thermometer was at 93°, which is the highest in September since 1854. In that year, on the 4th of September, it reached 102° in the shade. 30th, slight frost this morning. The weather is exceedingly dry. Half an inch of rain fell on the 6th, the only rain of any consequence during the month. Wells are failing considerably.

Aurora, Ill.—September 30.—There being no frost, corn fully ripened. The weather has been very favorable and well improved.

Galesburg, Ill.—September 30.—The month has been warm and dry, and corn has ripened finely.

Peoria, Ill.—The highest mark reached by the Illinois river in September was from the 3d to the 7th, five feet above low water; the lowest was on the 25th to the 30th, at low water mark.

Augusta, Ill.—September 30.—Light white frost in low places, partially killing leaves of sweet potato vines.

Manchester, Ill.—September 10.—First frost this morning, very light.

Winnebago, Ill.—September 30.—Thermometer at sunrise 28°; first frost injurious to vegetation; potato and squash vines and leaves of Indian corn killed.

Loami, Ill.—No rain during the month; one day only of entire cloudiness; twelve days without clouds, the rest partially cloudy. The first frost of the season was on the 30th, very light. Wells are failing, and there is a great scarcity of water for farm stock.

Tiskilwa, Ill.—September 30.—The month has been unusually dry, and it is now dryer than at any time during the season; wells and small streams are getting extremely low, and some are giving out. The first frost to leave its mark visible was on the morning of the 30th, just hard enough to kill corn blades in low land.

Mount Sterling, Ill.—September 30.—The only rain during the month was a very moderate shower on the morning of the 9th, and another on the morning of the 20th. All the streams in the country, and nearly all the ponds, are dry. Many wells have failed entirely, and all are more or less affected. Pastures, even in the timber, are almost everywhere dried to a crisp. Such a drought, at this season of the year, is not remembered by the oldest inhabitant.

Hermitage, Mo.—Very slight frost on the morning of the 10th, no other during September. The month has been remarkable for high temperature and the almost entire absence of rain. Streams are lower than at any time for seven years.

Rolla, Mo.—September 11.—A slight frost, the first seen this season, but not enough to damage vegetation.

Plymouth, Wis.—The first frost of any amount was on the morning of the 30th; at daybreak the thermometer was as low as 28°. The first frost in each of the previous six years was as follows: 1861, September 17; 1862, September 1; 1863, September 17; 1864, September 27; 1865, October 2; 1866, September 21.

Delavan, Wis.—September 30.—First frost, injuring vegetation considerably. The month has been very dry; vegetation is dried up, and there is no grass for animals.

Manitowoc, Wis.—September 30.—Thermometer 34° at sunrise; cucumbers frozen, dahlias not.

Waupacca, Wis.—September 30.—First frost to kill garden vegetables.

Sibley, Minn.—September 1.—Slight frost, first of the season.

St. Paul, Minn.—Frost was observed on the morning of the 1st, doing some injury to corn and cucumbers. September 30.—Cranberries are largely drowned out.

Minneapolis, Minn.—September 1.—White frost this morning, the first this season, except a very slight one August 28.

Dubuque, Iowa.—Slight frost on the morning of the 16th and 26th.

Independence, Iowa.—September 6.—A slight frost in some localities this morning, but no injury. 17th, heavy rain from the west at 5 p. m., with thunder and lightning and violent wind, almost a tornado. 30th, a light frost visible on the boards early this morning; vegetation not injured.

Waterloo, Iowa.—September 30.—No frost this month.

Algona, Iowa.—Light frost in the morning on the 6th and 10th; no damage.

Guttenberg, Iowa.—September 10.—Thermometer at 5 a. m. 32° ; frost in low places. 30th, frost killed the corn and pumpkin vines on the prairies.

Fort Dodge, Iowa.—September 6 and 10.—Slight frost, not enough to do any damage. 10th, a swarm of grasshoppers arrived at 1 p. m., and commenced work immediately on vegetables, leaving hardly any buckwheat worth cutting, and stripping the leaves entirely from the corn, so that it looks like sticks stuck in the ground. They came again in additional numbers on the 20th, but are now (at the end of the month) gradually decreasing. They have laid their eggs by millions.

Monticello, Iowa.—September 10.—Very light frost, first of the season; no damage, not even to vines. One hundred and ten days without frost this year; ninety-four days in 1866, and one hundred and thirty-nine days in 1865.

Marble Rock, Iowa.—Frost in low places on the 10th and 30th, but not doing much damage.

Fort Madison, Iowa.—September has been extremely dry; wells are failing, and have been very low all the month. The ground has not been too wet for cultivation since the 4th of July.

Algona, Iowa.—September 20.—Grasshoppers made their appearance in large numbers, and by the 30th had stripped gardens and tender herbage. Corn was too far advanced towards ripening to be much damaged. They seemed to come from the west or southwest.

Atchison, Kansas.—Light frost on the low lands on the mornings of the 10th and 24th, but did no damage.

Council Grove, Kansas.—September 20.—Grasshoppers passing southeast in great numbers, dropping heavily of their numbers on farms and woodland. All seem to be of spring hatching. 26th, laying eggs same as last fall, and eating everything in their reach.

Holton, Kansas.—September 30.—Grasshoppers eating some early sown wheat. They can be seen by millions passing to the southwest. They have done but little injury here thus far.

Glendale, Nebraska.—September 6.—First frost, but so very dry as to do no damage. 8th, thermometer at 11 a. m. 90° , at 2 p. m. 67° , a fall of twenty-three degrees in three hours at midday. 10th, thermometer at 5 a. m. 33° ; frost in low grounds. 15th, from 8 a. m. till 7 p. m. a gale of wind scattering stacks of grain and hay, fences and some slight buildings.

MONTHLY REPORT

OF

THE DEPARTMENT OF AGRICULTURE,

FOR

NOVEMBER AND DECEMBER, 1867.



WASHINGTON:
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MONTHLY REPORT.

WASHINGTON, D. C., *December, 1867.*

SIR: I herewith report, for publication, the following matter, presenting an epitome of the facts and statements received, digested, and collated in the months of November and December, in the statistical division, including articles under captions as follows: Condition of crops for November, with tables; Extracts from correspondence; Wheat in Nebraska; Popular fallacies concerning wool; Greensand marl as a manure; Rinderpest; Immigration; Southern industry; Receipts of wheat; Pork packing; Trade with San Francisco; Los Angeles county, California; Composition and feeding value of straw; Hungarian agriculture; British cotton trade; Irish butter; Agricultural returns of Great Britain; Movement of live stock; Dog tax in England and Scotland; California items; Facts from various sources; Meteorology.

Respectfully,

J. R. DODGE.

Hon. HORACE CAPRON,
Commissioner of Agriculture.

CONDITION OF FARM CROPS.

Estimates of most of the principal farm crops have heretofore been given. The severe drought of the central portions of the west modified somewhat the expectations of early summer, while the fine fall weather of the south tended to enlarge the prospective returns of cotton planters.

Corn.—The following are estimates from department and all other accessible data of the corn crop of 1867 in the several States. It will be seen that the figures are actually less than those in 1860, notwithstanding the increase of population in many of the States, including the great corn-growing States of Illinois and Ohio. The total, 775,820,000, is about 53,000,000 bushels less than the total census return of 1860, which was 838,792,740 bushels. Considering the increase of population this is scarcely four-fifths of the product of that year:

	Bushels.
Maine.....	1, 575, 000
New Hampshire.....	1, 413, 000
Vermont.....	1, 520, 000
Massachusetts.....	2, 363, 000
Rhode Island.....	340, 000
Connecticut.....	2, 242, 000
New York.....	20, 500, 000
New Jersey.....	9, 730, 000
Pennsylvania.....	30, 457, 000
Delaware.....	3, 639, 000
Maryland.....	11, 650, 000
Virginia.....	18, 490, 000
North Carolina.....	17, 974, 000
South Carolina.....	7, 834, 000
Georgia.....	29, 037, 000
Florida.....	2, 500, 000
Alabama.....	35, 500, 000
Mississippi.....	19, 657, 000
Louisiana.....	9, 535, 000
Texas.....	20, 716, 000
Arkansas.....	21, 243, 000
Tennessee.....	50, 250, 000
Kentucky.....	46, 550, 000
Missouri.....	50, 437, 000
Illinois.....	109, 091, 000
Indiana.....	80, 757, 000
Ohio.....	64, 000, 000
Michigan.....	15, 118, 000
Wisconsin.....	9, 885, 000
Iowa.....	53, 333, 000
Kansas.....	8, 159, 000
Minnesota.....	4, 500, 000
Nebraska.....	2, 325, 000
West Virginia.....	6, 500, 000
Pacific States and Territories.....	7, 000, 000
Total.....	775, 820, 000

Cotton.—The returns relative to cotton indicate fully twenty per cent. aggregate increase over the crop of last year. The actual crop of 1866, as sold and shipped, (making due allowance for receipts of the previous crop and amount not

sent forward on the 1st of September, 1867,) was very nearly 1,900,000 bales, while the estimate of this department, in October, 1866, was 1,835,000 bales. That crop was one of the most unfortunate ever grown—reduced by cold, wet weather in spring, drought in summer, insects, floods, frosts, and other casualties; otherwise it would have reached two and a half millions of bales. In South Carolina and Georgia, particularly, the breadth of cotton was much enlarged last spring, while in Mississippi it was slightly diminished. As a whole, the acreage was somewhat increased. While the casualties of this season have been fewer, and successful growth more general, many drawbacks have occurred in various localities, as shown in “extracts from correspondence” elsewhere; but the season for picking has proved exceedingly favorable, the weather having been fine, and killing frosts long deferred.

The total estimate, made in view of all the department data, as well as outside information, is placed at 2,340,000 bales. It will be seen that Texas has done less than should have been expected, and many may regard 200,000 bales as still too high, both for her Red river and Gulf coast outlets. The following are separate estimates by States:

	Bales.
North Carolina	150,000
South Carolina	225,000
Georgia	390,000
Florida	55,000
Alabama	375,000
Mississippi	305,000
Louisiana	155,000
Texas	200,000
Arkansas	230,000
Tennessee	175,000
Other States	80,000
Total	2,340,000

The total number of bales, as returned by the census of 1860, was 5,386,397

Table showing the condition of the crops, &c., on the first day of November, 1867.

STATES.	CORN.		SORGHUM.		POTATOES.		TOBACCO.		PEAS.	
	Average amount of crop compared with 1866.	Quality of the same.	Average amount of crop compared with 1866.	Quality of the same.	Average amount of crop compared with 1866.	Quality of the same.	Average amount of crop compared with 1866.	Quality of the same.	Average amount of garden crop compared with 1866.	Average amount of field crop compared with 1866.
Maine	9.7	10	-----	-----	5.7	7.4	-----	-----	9.4	8.8
New Hampshire.....	10.7	11.3	-----	-----	7.7	9	-----	-----	9.7	9.6
Vermont	10.2	12	-----	-----	8.1	9.2	10	10	9.7	9.4
Massachusetts.....	10	10.4	9	10	7.8	8.7	7	10.3	10.2	10.2
Rhode Island	8.3	10	-----	-----	7.3	8.7	8	8	10	-----
Connecticut	10.1	10.5	9.7	10.7	6.5	8.7	8.5	10.2	6.5	10
New York	10.2	10.8	9.8	11.2	8	9.7	8.9	10.9	10.2	10.3
New Jersey.....	10.2	10.3	8.1	9.6	6	7.7	8	8	10	9.7
Pennsylvania.....	8.5	10.1	7.3	9.1	7.5	9.5	9.5	9.5	9.8	9.6
Delaware.....	8.5	9.5	7	10	9.5	7	-----	-----	14	-----
Maryland.....	8	9.4	8.4	10.2	8.6	9.8	7.5	9	10.5	9.8
Virginia.....	8	9.3	7	8.8	9.3	10.1	10	9	9.5	8.9
North Carolina.....	8.3	9.4	10	8.1	10.1	9.9	10.2	9.8	8.9	7.8
South Carolina.....	13	11.2	6.9	9.2	10.7	9	8.5	10	9.8	10.7
Georgia	18.5	16.6	9.1	10.4	12	10.5	10.8	11.5	13.5	13.9
Florida.....	13	10.2	-----	-----	10	8.7	3	2	8.5	8.5
Alabama	19.5	13.7	8.4	11.6	11.4	10.9	9.2	11	11.4	11.1
Mississippi.....	16.5	11.4	6.7	10.7	10.7	10	10.7	10.7	9.8	10.5
Louisiana.....	13.8	9	12	10	11.7	8.8	8	12	10.6	11
Texas	10.7	10.6	9.5	10.1	12.1	10.8	8.7	9.8	9.8	10.1
Arkansas	19.2	12.5	15.3	12.3	12.3	10.2	12.2	9.7	15.2	13.6
Tennessee	12	10.9	8.5	10.1	8.4	9.4	8.9	9.9	11.2	10.8
West Virginia.....	8	10.3	8.4	9.9	9.5	10.7	8.8	10.2	10.2	10.2
Kentucky.....	7.1	9.1	7.4	9.3	7.2	8.9	6.6	9.3	8.8	9.3
Missouri.....	11.2	11.2	9.8	10	10.5	11	9	10.8	10	10
Illinois	7	11.4	4.8	10.3	7.2	10.7	9	9.8	9.7	9.7
Indiana.....	7.5	11	5	9.7	8.2	11.2	9	10.2	9.8	9.3
Ohio	6.5	10.6	5.6	9.8	8.2	12.6	4.2	9	9.4	9.6
Michigan	10	11.9	8.3	9.9	9.9	11	9.4	9.9	10.2	10.5
Wisconsin	10.5	13.4	7	11.4	10.4	11.9	7.8	10.7	10.5	10.3
Minnesota.....	11.5	12.5	11.3	11.3	9.7	11	9.7	9.5	10.6	10.4
Iowa.....	10.2	12.4	6.9	11.1	12.2	10.8	9.9	10.6	10.2	10.1
Kansas.....	12.5	11.3	12	10.8	12.9	11	10.6	10	14.3	10.5
Nebraska.....	11.1	12	9	10	9	10	8.3	10	10.3	9.2

Table showing the condition of the crops, &c., on the first day of November, 1867.

STATES.	HAY.		BEANS.	BUCK- WHEAT	FLAX.	COT- TON.	SUGAR- CANE, (not sorghum.	GRAPES	APPLES.	PEARS.
	Average amount of crop com- pared with 1866.	Quality of the same.	Average amount of crop com- pared with 1866.	Average amount of crop com- pared with 1866.	Average amount of crop com- pared with 1866.	Average indicated crop com- pared with 1866.	Average indicated crop com- pared with 1866.	Quantity compared with an average crop.	Quantity compared with an average crop.	Quantity compared with an average crop.
Maine	13.2	9.5	9.5	9.7	9.8	-----	-----	7.8	5.6	8.9
New Hampshire ..	12	10	8.7	10.8	10	-----	-----	8.7	8.1	11
Vermont	11.6	10.6	10.2	10	9.7	-----	-----	12.3	9.7	10.7
Massachusetts ..	13.9	9.4	8.6	8.2	-----	-----	-----	8.5	7.7	9.6
Rhode Island	12.7	8.3	10	10	-----	-----	-----	6.5	3.3	8.3
Connecticut	13.4	8.5	9.5	6.2	-----	-----	-----	10	5.7	10.2
New York	11.2	10.4	10.2	10.1	9.5	-----	-----	9.7	8.1	9.4
New Jersey	12.2	9.2	9.7	9	8.7	-----	-----	8.2	5.4	9.2
Pennsylvania	12.3	10.5	9.6	9.1	9.2	-----	-----	9	5.2	8.5
Delaware	11.5	10	10	12	10	-----	-----	9	7.5	10
Maryland	11.8	9.8	10	10	9	-----	-----	6.8	6.9	9.3
Virginia	11	10.3	9.8	8.7	8.2	8.3	-----	10.1	11.2	12.1
North Carolina ..	11	10.1	7.3	7.8	9.2	11	-----	9.5	9.3	9.2
South Carolina ..	11	9.7	10	10	10	13.3	-----	11.4	8.6	6.7
Georgia	12.8	10.6	11.9	10	10	14.4	11.3	9.5	7.2	7.7
Florida	8	7	7	-----	-----	7.8	10.8	10	-----	8
Alabama	11.5	10.2	11.3	10	10	13.6	10	8.7	7.2	6.2
Mississippi	13.6	12.6	10.7	11	-----	10.9	10	6	4.4	3.3
Louisiana	40	11.2	9.5	-----	-----	9.1	15	6.5	6.5	5
Texas	11	10.5	9.8	-----	-----	9.7	10.6	10.3	7.7	8
Arkansas	12.6	11.6	12.8	9	10	11	-----	10	9.8	8.9
Tennessee	10.8	10.2	10.8	8.8	10.2	11.1	-----	8.9	3.6	4.1
West Virginia	10.8	11	9.9	8.6	9.6	-----	-----	5.7	12.7	11.7
Kentucky	10.2	10.8	8.5	7.8	8.9	8.5	-----	8.6	9.2	9.3
Missouri	10.4	11.2	9.7	10.2	10.1	10.4	10	10.5	12.1	10.6
Illinois	11.4	12.2	9.3	9.1	9.6	8.6	-----	11.3	8.6	10.1
Indiana	11.1	12.1	9.4	9	10.4	-----	-----	10.4	10.4	10.9
Ohio	11.3	12.5	5.8	6	9	-----	-----	10	7.2	8.7
Michigan	11.3	11.2	10	9.9	9.8	-----	-----	11.5	10.7	10.3
Wisconsin	11.9	12.4	10.3	9.5	8.4	-----	-----	12.2	14.7	11.7
Minnesota	13.1	12	11.1	9.2	9.6	-----	-----	12.7	11.7	-----
Iowa	11.9	11.4	10.4	11.1	11.6	-----	-----	12.6	12.6	11.1
Kansas	13.2	11.6	11	15.3	10	9.8	10	10.9	13.2	11.5
Nebraska	11.8	10.7	9	10.5	10	-----	-----	12.3	13	11.7

EXTRACTS FROM CORRESPONDENCE.

COTTON.

Duplin county, North Carolina.—To sum up the results of this year's operations, we have two-thirds enough corn for next year's consumption; one-half to two-thirds of our cotton crop goes to pay for fertilizers, and the balance is due our laborers. Cause—heavy rains, indifferent tillage, and too great eagerness to make money, the high price of cotton last spring having induced our planters to limit the breadth of land in corn and peas to barely sufficient under favorable circumstances to furnish a supply for home consumption, and to increase the acreage of cotton 100 to 150 per cent. At present prices (eleven to fourteen cents per pound, net) we cannot grow cotton here, and two-thirds of the farmers of this county cannot pay expenses this year.

Wake county, North Carolina.—Cotton does not pay expenses here this year. Planters are arranging for next year to plant only two-thirds of a crop, and pay only two-thirds of present wages to laborers.

Bertie county, North Carolina.—The decrease in our cotton crop is one-half as compared with last year, though the staple is longer.

Beaufort county, North Carolina.—The yield of cotton worse than was expected, so many bolls were shed before maturity.

Jones county, North Carolina.—It is the opinion of intelligent farmers in this and adjoining counties that the yield of cotton will be above that of last year's crop in quantity, but with less yield per acre, as there was larger acreage than last year.

Abbeville county, South Carolina.—Cotton is good, and will yield more than an average crop to the acres planted, but owing to the diminished acreage it will not reach the average crop before the war. The usual average of cotton in the seed to the acre is from 350 to 410 pounds. This year I put it at 500 pounds, or 130 pounds of lint to the acre. Since the decline in price the tax is felt to be oppressive, and if not removed or modified will greatly diminish the production another year.

Carroll county, Georgia.—The cotton crop has been seriously injured by the rust, but the deficiency will not be large, so favorable has been the fall for gathering. The crop was gathered unusually early. The caterpillars did little harm.

Spaulding county, Georgia.—Our yield of cotton per acre will, in my opinion, exceed that of any season since 1847 and 1848, or even the crop of 1839. The weather has been favorable for gathering the staple as fast as it opened, consequently the quality is good; but many planters injure the lint in ginning too rapidly with gins that are filed too sharp.

Newton county, Georgia.—The season has been very favorable for gathering cotton, and we hope to make an average crop in this county. The tax imposed by government upon this staple, together with the uncertainty of labor, will doubtless discourage many from continuing its culture.

Bibb county, Georgia.—The cotton crop, though large, will not be remunerative to the planter, as the heavy tax and excessive prices of bacon, corn, and mules will more than absorb the crop.

Greene county, Georgia.—We have been blessed by a kind Providence this year. I will make the largest crop of corn and cotton made in ten years. Some of my cotton is over six feet high, and so loaded with bolls that it is so tangled and laying on the ground that it is almost impossible to pass through it.

Giles county, Tennessee.—We have had an unusually fine autumn for gathering cotton, which in this section is very fine. Relieve us of the onerous cotton tax, and let our farm operations quiet down, and we will go on prospering, and soon repair the ravages of the late devastating civil war. There is a general inquiry for labor-saving machines and implements, better stock, seeds, &c.

Henry county, Tennessee.—Fall has been favorable for farm work, and although labor is scarce and high (in proportion to the price of cotton) the picking of cotton is well advanced. A large portion of the crop of this county will be manufactured in the county, there being four spinning factories located within our county limits.

Tippah county, Mississippi.—Cotton turns out fifty per cent. better in this county than anticipated in my last report, the worm not doing as much injury as expected, and the season having been very favorable for gathering the crop.

Union county, Georgia.—Cotton is opening slowly, but with fair weather all the grown bolls will yet open.

Mississippi county, Arkansas.—The very favorable fall season for cotton, maturing almost every boll, has given us an increased crop over last year, both in quantity and quality, more than compensating for the injury in early spring from cold and wet and the cut-worm. Yet, under the present state of affairs, the planter who has produced the most cotton has accumulated the greatest debt, to be liquidated by future crops, or cancelled under the bankruptcy act. Cotton, of the grade we produce, will yield us, after payment of tax, commissions, and freight, about $11\frac{1}{2}$ cents per pound, yet it cannot be grown, at present rates of supplies and labor, for less than 18 cents per pound. Cotton growing in the Mississippi valley is a financial failure, and not a single honest planter of this valley will disagree with me in this view.

Desha county, Arkansas.—I estimate the cotton crop of this county at about thirty per cent. less than last year. The condition of the crop up to October 1 was not good, but the favorable weather since has brought out the cotton astonishingly, and all the bolls not injured by the worm will mature.

Bossier parish, Louisiana.—The cotton crop in this part of the State, and I may say throughout the State, will fall far short of earlier estimates. The crop is now nearly gathered, and to show you the condition of the cotton crop, I may say that I have in cultivation 200 acres, and forty bales will be the outside of my yield. I should have had a bale to the acre—our calculation ordinarily.

Union county, Arkansas.—From the 1st to the 15th of July the cotton crop looked promising, when the worms made their appearance, always in the centre of the field, and generally on the very best cotton. By the 15th of August all the leaves were stripped from the stalks.

Prairie county, Arkansas.—Cotton crop diminished on account of the long wet spell in the spring and the succeeding drought. The staple, however, is longer and better than before known.

Fayette county, Texas.—I think cotton will average one-fourth of a bale (500 pounds bale) to the acre in this county. I have travelled considerably through the county, and find the crops various. While a few acres will yield a bale per acre, some acres are not worth harvesting.

Tensas county, Texas.—Cotton planting proves a losing business here to all engaged in it, and will be a secondary consideration hereafter. Any other crop is more profitable than cotton with the present prices and revenue tax.

Lavacca county, Texas.—The failure of the cotton crop in this county is more complete than I have ever known before. Several farms of 100 acres and upwards in cotton have only made from one and a half to five bales altogether, while a few farms of from ten to sixty acres have made one-quarter bale to the acre. The prospect for next year is not encouraging, for the grasshoppers are already by the million depositing their eggs in the western part of the county, which, if not destroyed by storm or severe winter, will hatch out in the spring, and do a great deal of damage.

Henderson county, Texas.—The worm injured the cotton crop about 20 per cent. The lint will prove to be inferior on account of the immaturity of the bolls that were attacked by the worms; it is fine, but short, with little oil in it, and not strong. My estimate of the present crop of cotton is 2,000,000 bales.

of 500 pounds each, at the very utmost. Our cotton is worth at home, at present prices, about eight cents per pound. We cannot make it for less than twelve cents per pound. I have made two good crops for the land planted and the force employed, (both on a small scale,) and they bring me in debt. This is also the experience of others. Hence we quit, rent, or let the land lay idle.

Cherokee county, Texas.—On account of the tax on cotton, the acreage was less, and that grown was greatly damaged by the worms, particularly on the bottom lands, and even on the uplands fields of 100 acres will not make more than ten bales of 500 pounds each.

Colorado county, Texas.—Cotton, in this county, is almost an entire failure, from the ravages of the army worm. This has been the case in all the counties within 100 miles of the coast.

Leon county, Florida.—Cotton has turned out better in this county than anticipated. Planters will not get through picking before Christmas. Our crop will be about twenty per cent. above that of last year.

Red River county, Texas.—We have had almost a failure in the crop of cotton on account of the cotton caterpillar, and wet weather. We shall not have more than half a crop.

Hunt county, Texas.—Last year there were about 100 bales of cotton made in this county; this year there will be at least 600 bales. The increase is from acreage. The yield per acre will be about 266 pounds ginned cotton. Last year it was about 400 pounds. The ravage of the worm is the cause of the decline in yield per acre.

Austin county, Texas.—The havoc committed by the cotton worm or caterpillar has been greater this year than ever before, the worms in most places returning four times to the same fields, not allowing anything to grow anew. More than sixty acres in view cannot be picked at all. A good, medium crop would have brought us 2,500 bales of 500 pounds, but now it is doubtful whether we shall have 500 bales.

THE EGYPTIAN COTTON.

Bossier parish, Louisiana.—Last spring I received a small package of Egyptian cotton-seed from the department. The seed was planted with great care, but from some cause comparatively few came up. The stalk is very large and high, but does not branch near the ground—say two to three feet above, as a general thing. The middle and top branches are very heavily balled. Some of the stalks are as much as ten to twelve feet high, and very large at the ground. The staple is very fine and long. I am of opinion that it will do well when acclimated, and I shall give it a fair trial next year.

Baton Rouge, Louisiana.—The Egyptian cotton seed received from the Department of Agriculture last spring, was planted upon two kinds of soil, upland and bottom, and fairly cultivated, and a tolerably good description of plant, but inferior in the yield to the "Mexican green," and "brown Mexican," that we cultivated in the general crop. We can see no inducement to replant the seed of the Egyptian cotton.

THE BOUGHTON OR TAPPAHANNOCK WHEAT.

Sparta, Wisconsin.—The Boughton or Tappahannock wheat has been successfully tried in this section for several years past. About five years ago I received from the department a quart package of the seed which was placed in the hands of one of our best farmers, Mr. R. McMahon, whose farm was a mixture of clay and loam. The seed was sowed about the fifteenth of September, and it grew well and matured twenty days ahead of other varieties, producing largely. The product was sowed the second year, which likewise increased remarkably. The third year produced enough to count by acres and the yield was about thirty-two bushels per acre, with a large, stout stalk, well headed. The crop was harvested on the 4th of July, escaping all vermin infesting

other varieties of wheat in this region. Since that period Mr. McMahon has been raising this grain and selling several hundred bushels yearly to the farmers of this section at an advanced price. The grain has been ground for flour and found to produce exceedingly well. The average product per acre has been thirty-one bushels, weighing sixty-two pounds per bushel. It is now the popular grain of this portion of the State, where the mercury falls to 28° below zero in winter.

Lancaster county, Pennsylvania.—On the 18th of September, 1866, I seeded one quart of early Boughton wheat received from the Department of Agriculture. It was fully ripened twelve days before our earliest variety, (early red chaff,) and yielded seventy-nine pounds, not being injured in the least by the midge. A neighbor of mine seeded one quart of the same variety and harvested seventy-seven and three-quarter quarts of good clean wheat. If it does anything like as well next season it will be the wheat for this section. It stands the winter well.

EARLY SOWING OF WHEAT.

Randolph county, North Carolina.—I think the farmers of this section are too backward in seeding down their fall crops. I sowed eight acres of fallow land with winter wheat in September, and by the last of October it pretty nearly covered the ground. When sowed early it is better able to withstand a severe winter, the blades being a covering and protection for the roots.

THE HOP CROP.

Sauk county, Wisconsin.—The hop crop of this county is enormous, being 100 per cent. ahead of last year. The crop this year will bring into the county \$3,000,000.

TOBACCO GROWN WITHOUT SUCKERS.

A. Packham, esq., of Prestonville, Carroll county, Kentucky, furnishes the following directions to tobacco-growers who would save the labor and trouble of suckering their plants several times during the season :

“At the time when suckering is about necessary, provide yourself with a small tin oil-can, the tinner making the spout of it with a sharp point, similar in shape to the blade of a penknife; then filling your can with a solution of crude potash, go through the motion of suckering by breaking off such as you see, and then with the point of your can make an incision down obliquely into the stalk, just at the spot between the stem and the stalk, where the sucker would grow, dropping into the incision so made one drop of the potash. This is the whole secret. It will not injure the valuable leaf, check its growth, or hurt the plant, but it will kill the germ of the future sucker. With practice a person can doctor a plant as above stated with as much celerity as one can the suckering, and will thus save the trouble of going over and suckering millions of plants every year.”

LESPEDEZA STRIATA, OR BUSH CLOVER.

B. D. Lamsden, of Eatonton, Georgia, in writing to the department in relation to the *Lespedeza striata*, or bush clover, now attracting considerable attention in middle Georgia, says :

“It is an annual, and has leaves in threes, like clover. The flowers are like those of the pea and bean, and the seeds somewhat resemble a bean, but are encased in separate shields. Its history or origin no one knows. If it is the *Lespedeza striata* it came from Florida, as the plant which bears that name was discovered there and called after one of its governors. It was noticed in this county (Putnam) five or six years ago, and has rapidly spread over the whole county; every field and lane having more or less in the fence corners. Last year I saved some of it for hay, which was readily eaten by all kinds of stock.

Sheep seem to delight in grazing upon it. I think it a great blessing for our old and worn-out fields. It grows in the shade and on any land where there is the least soil. It is rapidly destroying the broom sedge of our old fields, and is killing out that hated Bermuda grass, which is so troublesome on some of our plantations. It is not hard to destroy, as, well pulled up, it dies. It is a great renovator of the soil—a fact which has been demonstrated more than once to my certain knowledge.

“Our oldest citizens say it first appeared in the summer or spring after a severe dry storm which occurred five or six years ago. One intelligent gentleman says that it was introduced in an adjoining county (Green) by a Scotchman, who received the seed from Scotland. Whatever its name or origin makes little difference to the horses, mules, cows, and sheep.”

SHEEP HUSBANDRY IN GEORGIA.

The same correspondent, in speaking of sheep-raising in Georgia, expresses the opinion that “when the *Lespedeza striata* shall cover our worn-out lands and pine thickets, and rooted out our broom sedge, which it is fast doing, and legislative action be taken in regard to the sheep’s worst enemy, dogs, middle Georgia will become a wool-growing section. I had thirty head of sheep last winter—common stock of the country. I did not give them one cent’s worth of food, and left them to care for themselves, salting them occasionally. Early in the spring they commenced lambing, and I raised thirteen lambs, and sold \$12 50 worth of wool. The lambs were considered the best in our section, and the sheep were in fine condition. I mention these facts to show that with proper attention sheep husbandry can be made profitable in middle Georgia.”

SILK-WORMS.

Mr. H. C. Hermann, of Lenni, Delaware county, Pennsylvania, writes as follows in reference to the ailanthus silk crop :

“I made a splendid crop in the spring, but lost in the fall what I had gained in the spring, saving only 150 cocoons out of 200,000 worms. A very early frost, in September, killed the leaves and worms. When I first got the ailanthus worms I had no experience with the native silk-worms, but now I think them superior to any foreign silk-producing insect, both for the quantity of silk they produce, and the durability and strength of the material. I shall turn my attention to the native silk-worm next year, and report my success. I find as many wild cocoons as I want.”

GRASSHOPPERS AND LOCUSTS.

Lampasas county, Texas.—Grasshoppers made their appearance here in immense numbers about the first of October, and completely destroyed the fall and winter gardens, and injured the stock range materially. They continued with us until the 20th, when they moved on their journey in a southeasterly direction. Fortunately little or no wheat had been sown. Farmers are now sowing small grain, but the acreage will probably fall short of last year, many being deterred from sowing by apprehension of the reappearance of the destroyer in the spring.

Dallas county, Texas.—The grasshoppers made their appearance here on the 17th of October, the air being filled with them. They appeared to be coming from the west, and travelling east. They have literally eaten every green thing, and in places where they got to the wheat that was being sown they devoured the grain. About two-thirds of the grasshoppers have disappeared, and I think all will leave in a few days.

Burleson county, Texas.—We have the locusts or grasshoppers with us, and they now cover the ground and are depositing their eggs.

Bell county, Texas.—We have had grasshoppers in considerable numbers

since the 15th of October, but too late to do any harm except to gardens, which they have entirely destroyed.

Woodson county, Kansas.—The "Mormon locusts" made their appearance in this county on the 25th of September, and there was not sufficient cold weather to stop their ravages upon the crops until the 29th of October, when the thermometer fell to 24° above zero. The consequence is they have destroyed all the wheat sown prior to their arrival. Wheat is now being sown, but it is late, and I fear there will not be a good crop next year.

Nodaway county, Missouri.—The grasshoppers made a raid upon us this fall, but too late to do much injury. We look for their appearance in the spring, when the eggs deposited will hatch.

Dakota county, Nebraska.—The grasshoppers have left us, but their eggs have been deposited to be hatched out in the spring.

Hall county, Nebraska.—Grasshoppers have been very thick again this season, but have done little damage. They have deposited few eggs compared with the preceding year.

Page county, Iowa.—We have had a most bountiful season, fruit and crops of all kinds producing remarkably; but we have been visited this fall by the grasshoppers, which have devastated gardens to considerable extent, and even eaten the fruit from the trees. They were particularly fond of peaches, in many instances eating the fruit entire, leaving the pit on the tree. Nearly all the cabbage in the county has been devoured by them, and the fall wheat entirely eaten up, my own being the only piece left in this section. The earth is filled with their eggs, and we are expecting the grand army of grasshoppers in the spring, of which these were probably the advance guard.

Fayette county, Texas.—Grasshoppers appeared in this neighborhood on the 3d instant in great numbers. As yet I have discovered no devastation by them, but believe we shall yet suffer from them, if not till spring.

Coryell county, Texas.—The grasshoppers made their appearance in this county on the 12th of October, coming in vast quantities from the north. They have been with us a month, and done much injury. All the fall gardens were destroyed, and though wheat sowing time is past little has been sown, as the grasshoppers eat the grain before it can be covered.

Lampasas county, Texas.—Since last report grasshoppers have come upon us, though not very numerous, but sufficient to deter farmers from putting in wheat and other small grains, and the probability is that little fall wheat will be sown in this county this season.

Fannin county, Texas.—The grasshoppers made their appearance about two weeks ago, but have done little or no injury yet. There is a general disposition to withhold seeding until the grasshoppers entirely disappear.

Red River county, Texas.—We have now in this county, for the first time within my recollection, a visitation of grasshoppers, which are devouring everything they can make food of, and I fear they will destroy all the wheat put into the ground. Sowing will be suspended until they disappear.

Austin county, Texas.—Locusts and grasshoppers, heretofore unknown in this locality, have appeared in countless numbers, and we anticipate their return next year.

Great Salt Lake City, Utah.—A correspondent, writing of the extreme mildness of the season, says: "I have only to narrate that in a field that was being planted in the northeast portion of this city last Monday numbers of young grasshoppers the size of house flies were turned up by the plough, all alive and green, and quite recently hatched."

THE POTATO BUG.

Brown county, Wisconsin.—The potato bug spread very rapidly this year. Whole fields were destroyed by them. The insect attacked white, delicate

potatoes first, those having red color on them last. The Prince Albert vines were totally devoured before the Garnet Chili vines were touched by them, though growing side by side.

EARLY LAMBS.

The following from Queens county, New York, indicates the growing tendency towards the production of mutton rather than wool: "Wool very low, and number of sheep decreasing, and were it not for the high price that lambs fetch in New York market early in the spring, sheep raising would be abandoned in this section."

WHEAT IN NEBRASKA.

The editor of the Omaha Herald, in printing the gist of the article in the October report upon wheat culture, refers to a conversation with a prominent farmer, who expressed a belief that Nebraska might expect exemption from the prevalent deterioration in yield of wheat lands "by rotation of crops and keeping out the weeds, and by ploughing a little deeper each year."

This is begging the whole question. These are among the means proposed for the increase of production and prosperity of western farmers, which are now ignored by the great majority of them in all these States, with little probability that Nebraska will prove an exceptional case. The employment of the same means would produce universal improvement; but improvement was never yet made by a person professing to have already attained perfection. It is useless to recommend variety in crops and the ameliorations incident to stock growing to farmers who believe that a soil will never wear out if annually scratched to the depth of five inches and invariably sown with wheat, which is inevitably swamped with weeds before the wheat is half grown. Instead of tares growing with the wheat until harvest, it is often the case that the wheat makes a futile endeavor to lift up its head among the tares.

The Herald states as a remarkable fact, that "these Nebraska wheat-growing soils are so deep that it has been demonstrated in his own experience and that of others that soil brought from fifty feet below the surface in digging wells, properly prepared and sown to wheat, will raise almost as large a crop of wheat and of equal quality with that which is next the sod."

It matters little how rich the material that may lie fifty feet below the surface to farmers who will not go five inches in that direction. Shallow cultivation, and little of that, is the rule in new countries, generally followed till discouragement at the results attained leads to changes of proprietorship and systematic farming. Statistics of Australia show the same causes and the same effects now operating. Wheat averages have there been reduced to twelve bushels per acre, under a course of shallow ploughing and weed growing, with seeding annually to wheat. If the wheat growers of Nebraska are discarding the slovenly example of the west generally, preparing the seed bed thoroughly, selecting seed with care, drilling at sufficient width and with such regularity as to admit of cultivating and destroying weeds, adopting a judicious system of rotation, and keeping stock to utilize hay and straw of the farm and return to the soil the elements withdrawn from it, then they may escape the losses of wheat deterioration, but not otherwise. These are simple truths, as every good farmer knows, but, with very few exceptions, they are not acted upon. Among those exceptions, even in the poorer soils of the east, are cases of twenty-four bushels per acre, or double the product of the slovenly farming on rich and cheap lands. If these errors are avoided in Nebraska, their agricultural papers, unlike those of a neighboring State, may not be expected to suggest that if "a pound of butter comes into the city before thanksgiving, every clergyman should especially name it as a cause of thankfulness."

POPULAR FALLACIES CONCERNING WOOL.

In commercial circles, at least, most erroneous views concerning the quality, consumption, present supply, and the influence of existing impost laws upon present prices, appear to prevail—a few of which are noticed, viz:

1. *That the quality of American wool has deteriorated.*—It has been boldly asserted that the dissemination of American Merinoes has been injurious to the quality of the wool. The most judiciously bred and carefully housed thoroughbreds have, indeed, furnished very oily unwashed fleeces, unprofitable to manufacturers on account of the loss in cleansing; but for one of these there are scores, if not hundreds of their progeny, whose wool is vastly superior to that of their coarse-wooled ancestors, and of that quality most in demand at American factories, answering for all except the finest cloths, and of sufficient length to become a substitute for combing wools in delaines. This breed has so far affected a vast improvement upon the coarse mongrel sheep constituting the great mass of flocks of former days. It is not necessary to affirm this fact before intelligent wool growers, but millions of American citizens may be misled by widely published statements of the inferior condition of our wool clip, resulting from crosses of American Merinoes upon the sheep of the west.

2. *That domestic wool is inferior to foreign.*—The very reverse of this statement is true. In strength of fibre and durability of fabric our home-grown wool is far superior to that which is imported. Every manufacturer who has tested the matter will corroborate the statement. Writers in the foreign wool-selling interest freely declare that a proportion of foreign wool is necessary for mixing with the domestic, and that in its absence the manufacture of the home fleeces must decline. The statement is utterly erroneous. The only pretext for it is in the adaptation of machinery, in certain factories, to this mixture. Every month is removing this mechanical impediment to the supremacy of domestic wools. The progress of manufacturers, in this respect, has been wonderful the past year. Cotswold and Leicester combing wools are in fact scarce, but the deficiency can be easily supplied in a few years, and the invention of our manufacturers, impatient of delay, has found an excellent substitute in the long fibre of Merino grades, by the aid of changes in the machinery by which it is wrought. Very little wool, except carpet grades, which are admitted with less duty than the wool grower pays as taxes, is now required by manufacturers from foreign sources. When the broadcloth manufacture shall be extended here, a finer Merino will be wanted, and can be supplied without foreign aid.

3. *That we need seventy millions of pounds of foreign wool to supplement the domestic supply.*—The imports of all wools, in four years of war, were but sixty-three millions per year, with six millions of shoddy—in all, more precisely, 279,183,049 pounds. In 1860 the imports were only half as much, and the home product but sixty millions; the actual manufacture but eighty millions. It is folly now to talk of sixty or seventy millions deficiency, when the trade is suffering from a surfeit of wools and woollens, notwithstanding the decrease of imports of wool since the war. On the other hand, there are persons who prefer to believe that the domestic wool product is in excess of the demand, a position equally unfounded.

4. *That the recent law has not benefited wool production and manufacture.*—The close of the war found full supplies of woollen goods, and immense stores of unused army clothing; and in anticipation of legislation affecting importation, nearly as many woollens were introduced, in a single year, as were imported during the entire period of the war. In this state of facts, utter annihilation of wool growing and manufacturing was only prevented by the operation of the law in repressing further importation, and inspiring confidence in the future,

when the immense surplus should be exhausted. It has produced all the advantages that its most sanguine friends could claim for it, in preventing in a large degree, ruinous depression and the sacrifice of flocks, and in paving the way for entire success in the future, which shall benefit every interest of agriculture and every branch of industry.

GREENSAND MARL AS A MANURE.

To the farmers of eastern Maryland and northeastern Virginia a new means of enrichment of the soil has been added in the exploration and development of the marl beds of Prince George's and neighboring counties of Maryland.

Although these beds have been known to exist for many years, they have but recently received that attention which they merit. Very many openings have been made along the eastern edge of the District of Columbia, from whence large and increasing quantities of marl are being drawn for the uses of the vicinity.

While these beds are found in localities, as beds of sand and gravel, with shells, and are thus somewhat like alluvial sand and clay hills, they are of much older formation than the common surface soil or the marl pits which exist at the bottom of old lake beds and water-courses. Indeed they are of so respectable antiquity that at the period when these green marl beds were being deposited in shallow estuaries, there existed upon this continent no great number of animals known as the mammalia. The predominance of the type of the life of the world at that period was reptilian, and while these marl beds were being formed here, under similar conditions in Europe the vast beds of chalk which line the southern coast of England and the channel shores of France were deposited. Hence these beds are everywhere classed as belonging to the cretaceous or chalk formation, constituting a series of rocks and beds which have pretty uniform characters. Where these beds now exist marks the place at which courses of water ran carrying down large bodies of sand and gravel to be deposited in the ocean further down. In fact, where these beds now are was formerly the basin of a considerable estuary, in which tidal action was tolerably powerful. Along the eastern shore of the States there is no deposition of chalk, but in the region west of the Mississippi, where the same formation recurs the beds are better developed, more calcareous, and solidified into rock strata.

In New Jersey, Delaware and Maryland, they constitute alternate layers of sandy and micaceous clay, between which are intercalated beds of a greenish sand, the upper layers of which contain shell remains.

The lower beds of the chalk formations in Europe have been called greensand beds, on account of their color and texture. In this country the upper beds have the bluish green tint, and are found most abundantly in New Jersey, where they are met with in Monmouth, Burlington, Gloucester, and other counties. The green color of the marl beds is due to the large amount of sand made up of fine blue grains, rounded and polished like the fine rolled sand of a river bottom. These grains mixed, with yellowish clay, or sand, give the greenish tint to these strata; they resemble gunpowder in size, and are softish, so that when crushed by the finger nail a green streak is left on paper. These beds in New Jersey have a slight slope dip towards the east or southeast, and are generally worked at water-level, or a very few feet above tide-water. The whole formation in New Jersey may be from 300 to 400 feet thick, and contain three workable beds of greensand marl, some of which are, in different counties, from 20 to 30 feet thick, and are great sources of wealth to the farmer proprietors, and for some years past the Freehold and Jamesburg and Camden and Amboy railroads have carried immense quantities of it to various stations on

their lines. The charge at the pits was, a few years before the war, six or seven cents a bushel.

These beds thus described in New Jersey leave that State by crossing the Delaware river, and pass into the State of that name; the general strike or direction is southwesterly, and they can be traced in eastern Maryland at the head of Chesapeake bay, whence they pass into Anne Arundel, Prince George's, and Charles counties, where they cross the Potomac into Virginia, and thence pursue the general southwesterly trend through the southern States into Alabama, Mississippi, and Texas, where they turn round north and pass into the Indian Territory and New Mexico. As the formation passes south, it changes its mineral character. In New Jersey the fossil shells are not numerous and of a few species, chiefly of the oyster and allied species, (*Ostrea*, *Gryphea*, *Exogyra*,) and not pervading every bed. Some of the Jersey greensand beds are destitute of any shell remains. In Maryland, on the contrary, all the beds are shelly, the species are much more numerous, and embrace many of the more familiar conchiferous mollusc shells, as the *pecten* and *inoceramus*, and abound in some layers, almost to the exclusion of the greensand. This intrusion of shell remains alters very considerably the chemical nature and the agricultural value of these beds as materials for top-dressing the land. The value of the New Jersey greensand is in proportion to the amount of the green grains present. These grains, being of a peculiar mineral character, have received the name of glauconite. Dana gives the following as the mineral constitution of glauconite in 100 parts: Silica, 50; protoxide of iron, 20-25; potash and soda, 8-12, (mostly potash;) phosphate of lime, traces; moisture, 7-10. In this mineral the amount of lime is very trifling, while the quantity of potash is very great, as much as would ordinarily be yielded by some felspars, and much more readily decomposable; hence the great value of the Jersey greensand lies in the large quantity of potash which it contains, and which the soil receives in a few years. The Jersey marl is not, however, all glauconite, as may be seen from the following analysis:

1. Marl from Squankum, Monmouth county:

Water	10.60
Silica	51.16
Protoxide of iron	16.20
Alumina	6.01
Potash and soda	4.27
Lime	3.47
Magnesia	2.03
Phosphoric acid	4.54
Sulphuric acid	0.42

In 100 parts.

2. Marl from Mullica Hill, Gloucester county:

Moisture	5.42
Organic matter .....	.....
Silica	60.32
Alumina and protoxide of iron	27.56
Phosphate of iron	0.37
Magnesia	traces
Potash and soda	5.50
Sulphuric acid	0.22

In 100 parts.

From the foregoing analysis we may conclude that Squankum marl contains not more than forty per cent. of glauconite, and the marl of Mullica Hill about fifty-six per cent. But even these quantities of potash are very large, and the influence of the marls upon some kinds of vegetation wonderful in its results; the quantity of lime in these samples is small, and shows how small an admixture of shelly particles exists in them. In the Maryland marls the very reverse holds good. The glauconite grains are very much less in those from Prince

George's and Charles counties, and the amount of shells vastly greater; on this account the whole nature of the marl is changed; it then contains very little potash and very large amounts of carbonate of lime. A few of very many analyses of Maryland marls, made in the laboratory of this department, will be given in the next report, for the purpose of illustrating the general composition of Maryland greensand marl.

T. A.

RINDERPEST.

Stories are circulating in agricultural papers to the effect that rinderpest exists in Maryland, Virginia, and other sections. Not a particle of evidence is found to sustain such statements. Not a case of "rinderpest," it is perfectly safe to say, has ever appeared in this country. There has been some fatality among cattle in Maryland and Virginia, in some cases lung disease, in others "hollow horn," &c., but no European cattle plague, or anything like it. If that disease ever does appear, it will make itself felt and known without laborious efforts to *advertise* it into notoriety.

IMMIGRATION.

The immense immigration to this country of the few years past is not only continued but increased. The following statement of the passengers from foreign countries, during the third quarter of the calendar year of 1867, is condensed from the report of the Director of the Treasury Bureau of Statistics. The first column represents only the immigrants:

Districts.	Immigrants.	NATIONALITY.						Total.
		Great Britain.	German States.	Other countries of Europe.	China and Japan.	United States.	All other countries.	
New York	70,968	31,673	31,004	8,016	.....	10,515	275	81,483
Boston and Charlestown	3,028	1,853	94	167	8	1,454	1,968	5,544
Baltimore	2,957	304	2,660	11	.....	131	25	3,131
San Francisco	1,925	597	12	4	1,278	.....	34	1,925
Detroit	1,026	.....	.....	950	.....	.....	76	1,026
New Orleans	209	36	129	101	.....	237	69	572
Philadelphia	420	342	19	55	.....	.....	4	420
Portland and Falmouth	212	1	.....	.....	.....	128	247	376
Texas	364	.....	364	.....	.....	.....	.....	364
Cuyahoga	79	.....	.....	.....	.....	87	148	235
Oregon	18	12	2	6	.....	44	.....	64
Chicago	29	.....	23	.....	.....	15	10	48
Providence	29	.....	.....	.....	.....	2	29	31
Salem and Beverly	16	.....	.....	.....	.....	.....	16	16
New Haven	2	.....	.....	.....	.....	6	8	14
Savannah	6	6	.....	.....	.....	.....	7	13
Erie	9	.....	.....	.....	.....	.....	9	9
Genesee	5	.....	.....	.....	.....	.....	5	5
Charleston	1	.....	.....	1	.....	3	.....	4
Edgartown .....	.....	.....	.....	.....	.....	1	.....	1
Total	81,333	34,324	34,307	9,311	1,286	12,623	2,930	95,281

SOUTHERN INDUSTRY.

William H. Garland, correspondent making returns from Pike county, Mississippi, after deploring the status of labor relations in that section, says :

"Not only is the south destined to feel the blighting influences of the present state of things, but their baneful effects must be felt through the whole country. Let the south limit its agricultural productions to its own consumption, and it ceases to be a market for the productions of the west. What a beautiful chain of self-interest bound this whole country together ! The south consumed the productions of the west ; the north manufactured the productions of the south, and sent them, increased by her labor, to the west to bring comfort to their homes and to give life and vitality to her lands, and thus this great country was bound together by a golden circle of self interest. But unless some change shall come in the councils of my country, this chain is broken, and the broad fields of the south will no more bloom with joy, happiness, and wealth."

The assumed evil here deplored, the breaking of the chain of abject dependence of one section upon the industry of the others, will yet prove the industrial salvation of the south. The cotton States, producing mainly one staple, sent it through numerous middle-men, at great expense, to Europe, and brought food supplies from the west, clothing from the east, and various luxuries from foreign lands, paying enormous prices and running in debt in this unprofitable exchange of products, while the country was left bare of improvements, destitute of good roads and public buildings, with a general air of poverty and thriftlessness. A shout of rejoicing should resound through the south that this false and ruinous system of slavish dependence is broken, with a possibility that a varied and self-supporting husbandry may be substituted, manufactures be built up, and the women and children of the poor furnished with suitable and congenial employment. The transition state may be bitter, but sweet results will follow, if all, black and white, shall cease idling and repining, and put their shoulders to the wheel of progress. The old complaint that the cotton States were enriching the north was true only in this comparative sense : they were impoverishing themselves by a suicidal policy, while States with varied and well-balanced industries were becoming enriched through a system of universal and profitable labor. They will become prosperous, if ever, when they grow their own grain, make their own cloth, and sell only the surplus results of their industry.

RECEIPTS OF WHEAT.

William J. Langson, secretary of the Chamber of Commerce, Milwaukee, Wisconsin, furnishes the following statement of the receipts of wheat at that point from September 1 to November 16, 1867, compared with the movement of four preceding crops :

	Bushels wheat.
Received September 1 to November 16, 1867	7,938,879
September 1 to November 16, 1866	5,877,402
September 1 to November 16, 1865	5,408,245
September 1 to November 16, 1864	1,658,901
September 1 to November 16, 1863	5,740,953

The above figures represent wheat alone. Including flour reduced to bushels the figures would compare as follows :

	Bushels wheat and flour.
Received September 1 to November 16, 1867	9,088,284
September 1 to November 16, 1866	6,778,387
September 1 to November 16, 1865	6,022,340
September 1 to November 16, 1864	1,988,886
September 1 to November 16, 1863	6,475,653

Showing an increase of about 34 per cent. over the receipts of 1866.

The following figures show the receipts of flour, wheat, corn, and oats at Chicago, up to the 14th of December, for the years 1867 and 1866 :

	1867.	1866.
Flour, (barrels)	1,789,140	1,775,016
Wheat, (bushels)	12,889,512	11,853,980
Corn	23,196,332	31,917,924
Oats	10,906,763	9,945,578

The receipts of flour and wheat for the same years, from July 29 to December 14, compare as follows :

	1867.	1866.
Flour (barrels).....	990,666	933,619
Wheat, (bushels).....	11,161,417	8,409,105

Showing an increase for the months named of over six per cent. in receipts of flour and nearly 33 per cent. of wheat.

The receipts of breadstuffs at New York, from all sources, for the eleven months ending November 30, 1867, were as follows, compared with those of two preceding years :

	1867.	1866.	1865.
Wheat flour, (barrels).....	2,469,476	2,494,979	3,228,393
Corn meal	196,717	247,906	279,879
Wheat, (bushels).....	9,448,979	4,546,831	7,810,347
Rye	745,678	1,048,675	677,503
Oats	7,890,554	7,698,352	9,056,799
Barley	2,538,730	4,832,766	2,904,050
Peas	655,385	406,582	140,586
Corn	14,600,260	20,689,802	14,794,440

It will be seen that the increase of wheat receipts over last year is upwards of 100 per cent, while corn has fallen off more than six million bushels.

PORK-PACKING IN CHICAGO.

Up to the 21st of December the pork-packing in Chicago sums up 528,981 head, against 165,000 same period last year, and 55,000 the previous year. The receipts of hogs for the week ending as above sum up as follows : Live, 73,149; dressed, 26,453; total, 99,602; and the shipments, live, 6,883; dressed, 1,034; total, 7,917; leaving for packers, city use, and numbers left over in the pens, 91,685 head. For the corresponding period last year the receipts were, live, 56,824; dressed, 16,388; total, 73,212; and the shipments, live, 2,606; dressed, 5,812; total, 8,218; leaving for packers, &c., 64,994 head. The hogs now arriving are very superior to those received early, and it is said that the best are yet to come.

The receipts of hogs at Cincinnati, for the week ending December 24, were 35,448 head against 64,574 for the corresponding week last year. Total for

the season to the above date, 283,577 head, against 244,010 for the same time last year, and 193,934 in 1865. The total number of hogs packed in Cincinnati last season was 462,610, and for the previous season 354,079.

TRADE WITH SAN FRANCISCO.

The bottoms that have brought wheat from California have returned with large cargoes of the products of industry. That farmers may see what this trade consists of, the following statement is given for the quarter ending September 30, 1867, as published in the December report of the Statistical Bureau of the Treasury.

Commodities.	Quantity.	Value.
Agricultural implements.....		\$8,624
Books and maps.....		433,410
Candles, tallow, and all other..... lbs..	70,000	14,025
Clocks, and parts of.....		1,100
Clothing, wearing apparel.....		1,378,400
Cotton, manufactures of.....		4,693,296
Drugs and medicines.....		158,538
Fancy articles.....		676,300
Gold and silver, manufactures of.....		1,600
Hats, caps, and bonnets:		
Of wool, fur, or silk.....		100,515
Of palm-leaf, straw, &c.,.....		124,860
Glass and glassware, cut.....		2,250
Hops..... lbs..	4,500	2,400
India-rubber, manufactures of.....		271,295
Iron and steel, manufactures of:		
All other manufactures of.....		486,667
Cutlery.....		5,475
Muskets and rifles..... number..	8,336	50,000
Leather, and manufactures of.....		
Boots and shoes..... pairs..	230,835	1,335,210
Saddlery and harness.....		55,000
Manufactures, all other.....		5,400
Locomotives, and other machinery not specified.....		77,425
Lumber, and manufactures of wood, other.....		1,097
Ordnance stores, cartridges, and fuzes.....		16,800
Paints, prepared.....		13,279
Paper and stationery.....		12,223
Provisions:		
Butter..... lbs..	1,210,330	402,170
Fruit, green, ripe, dried, not specified.....		8,975
Sewing machines.....		1,512
Soap, not specified..... lbs..	6,300	628
Spirits, distilled from grain..... galls..	52,400	27,025
Other materials..... galls..	68,925	42,070
Trunks and valises.....		489
Tobacco, manufactured..... lbs..	64,330	16,702
Leaf, manufactured..... lbs..	5,386,980	624,083
Total.....		11,098,843

CALIFORNIA AGRICULTURE.

Los Angeles county, California.—From the report of the assessors of this county, in 1866, we learn that there were 14,400 acres under cultivation in the county; of which 650 acres were in wheat, producing an average of 20 bushels to the acre; in barley 5,000 acres, averaging 30 bushels; rye, 20 acres, averaging 20 bushels; corn, 4,500 acres, averaging 40 bushels; potatoes, 1,000 acres, averaging 250 bushels. We annex a table showing the productions of

the county in 1860, as compared with those of 1866, with the cash value of the latter.

	1860.	1866.	Value, 1866.
Wheat, bushels	55, 196	13, 000	\$10, 333
Barley, bushels	46, 455	150, 000	108, 000
Rye, bushels	95	400	320
Corn, bushels	85, 010	180, 000	112, 500
Beans and peas, bushels	2, 465	5, 000	4, 500
Potatoes, (Irish,) bushels	15, 034	250, 000	125, 000
Potatoes, (sweet,) bushels	19, 200	.....	.....
Wool, lbs	209, 869	405, 000	60, 750
Wine, gallons	162, 980	1, 000, 000	400, 000
Brandy, gallons .....	.....	100, 000	250, 000
Oranges, estimated value of .....	.....	.....	527, 940
Lemons, estimated value of .....	.....	.....	88, 920
Walnuts, estimated value of .....	.....	.....	105, 240
			<hr/> 1, 794, 503 <hr/>

It will be seen that in the above table no account is taken of the grazing or stock interest, with the exception of the wool product, nor of anything but the staple articles of produce. A large decline in wheat culture is shown, but in all other products named the increase is marked, especially in wool and wine. The culture of the tropical fruits appears to have almost entirely grown up since 1860, yet yielded to the country nearly three-quarters of a million of dollars in 1866, and, with the large increase of trees in bearing, the amount must be considerably larger the present year. There are sufficient young trees planted in the county to double the orange crop in two years, and with the interest displayed in other tropical fruits as well, Los Angeles promises even more for the next five years than the above figures show for the past.

THE COMPOSITION AND FEEDING VALUE OF STRAW.

The above was recently the subject of a very interesting and instructive address before the "Athy Farmers' Club," Ireland, delivered by Dr. Charles A. Cameron, from which are condensed some facts and figures which may prove of practical value to our American farmers, who generally have regarded straw as of little value for fodder, and in some sections burn it to get rid of it. Dr. Cameron said that while many farmers consider straw the most valuable constituent of home-made fertilizers, chemical analysis proves that it is perfectly insignificant, and that as a constituent of stable manure it is chiefly used as an absorbent of the liquid egesta of the animals whose litter it has formed. Straw has been regarded as almost entirely innutritious, but within the last few years it has been largely employed by several of the most intelligent and successful feeders in England, who report so favorably upon it as an economical feeding stuff that it has risen considerably in the estimation of a large number of the agricultural public. Dr. C. thinks that, unless urgently demanded for litter, straw should be used as food for stock, for which purpose he considers it equal, if not superior, to hay, when relative prices are considered. From analyses quoted it appears that straw is more valuable when cut in the ripe state than when permitted to overripen, and that green straw contains a far greater amount of nutriment than is found in the ripe article. It appears, also, that the most nutritious kind of straw equals the best varieties of turnips in the amount of flesh-forming principles, and greatly exceeds them in its proportion of fat-forming elements. The

different kinds of straw stand in the following order in amount of nutriment: 1, pea haulm; 2, oat straw; 3, beanstalks with the pods; 4, barley straw; 5, wheat straw; 6, beanstalks without the pods. Dr. C. gives the following

ANALYSES OF IRISH OAT STRAW.

	From county Wicklow.	From Dublin market.			
	No. 1.	No. 2.	No. 3.	No. 4.	
Water.....	14.00	14.00	14.00	14.00	
Flesh-forming principles—					
Soluble in water.....	4.08	2.02	2.04	1.46	
Insoluble in water.....	2.09	3.16	3.60	2.23	
Oil.....	1.84	1.40	1.26	1.00	
Sugar, gum, and other fat-forming matters.....	13.79	12.67	10.18	11.16	
Woody fibre.....	59.96	61.79	65.45	65.29	
Mineral matter.....	4.24	4.96	4.07	4.86	
	100.00	100.00	100.00	100.00	

ANALYSES OF IRISH WHEAT STRAW.

	Green, changing to yellow. County Kildare.	Ripe. County Dublin.	Overripe. County Dublin.	From the Dublin markets.		
	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.
Water.....	13.00	13.15	12.14	10.88	11.22	12.12
Flesh-forming principles—						
Soluble in water.....	1.25	0.98	0.44	0.06	0.42	0.30
Insoluble in water.....	1.26	1.40	1.41	1.90	1.00	1.76
Oil.....	1.22	1.13	1.14	0.90	1.17	1.08
Sugar, gum, and other fat-forming matters.....	4.18	3.98	3.88	4.08	3.89	4.30
Woody fibre.....	75.84	76.17	77.76	78.67	79.18	77.15
Mineral matter, (ash).....	3.25	3.19	3.23	3.51	3.12	3.29
	100.00	100.00	100.00	100.00	100.00	100.00

These analyses show that, if wheat straw is allowed to overripen, a very large proportion of its nutritive principles is eliminated and altogether lost, and a considerable portion of the remainder converted into an insoluble and therefore less easily digestible state. Nor is there any advantage to the grain in allowing it to remain uncut after the upper portion of the straw has changed from a green to a yellowish color; on the contrary, it loses a portion (often a very considerable one) of its nitrogenous or flesh-forming constituents. It has been clearly proved that wheat cut when green yields a greater amount of grain and of better quality than when allowed to ripen fully. As compared with white turnips, the

nutritive value of oat straw stands very high; for while the former contain but little more than one per cent. of flesh-formers, and less than five per cent. of fat-formers, the latter includes about four per cent of flesh-formers and thirteen per cent. of fat-formers. Again, while the woody fibre in turnips is only about three per cent., it constitutes no less than sixty per cent. of oat straw.

In comparison with hay—considering the prices of both articles—oat straw also stands high, as will be seen by comparing the following analysis (mean results of twenty-five analyses) of common meadow hay with that of properly harvested straw:

ANALYSIS OF MEADOW HAY.

Water	14.61
Flesh-forming constituents	8.44
Respiratory and fatty matter.....	43.63
Woody fibre	27.16
Mineral matter, (ash).....	6.16
	<hr/>
	100.00
	<hr/>

At one time it was the general belief that woody fibre was incapable of contributing in the slightest degree to the nutrition of animals, but recent investigations prove that it is to a certain extent digestible and that the straw of the cereals possesses a far higher nutritive power than is commonly ascribed to it, and when properly harvested contains from twenty to forty per centum of undoubted nutriment.

Dr. Cameron recommends that straw should either be cooked or fermented before being used, as in either of these states its constituents are far more digestible than when the straw is merely cut, or even when it is reduced to chaff. An excellent mode of treating straw is to reduce it to chaff, subject it to the action of steam, and mix it with roots and oil-cake or corn. A better and cheaper plan is to mix the straw with sliced roots, moisten the mass with water, and allow it to remain until a slight fermentation has set in. This process effectually softens and disintegrates the woody fibre and sets free the stores of nutritious matter which it envelops.

In an economic point of view the theoretic deductions will be found to harmonize with the results of actual feeding experiments. Assuming that one hundred parts of oat straw contain, on an average, one part of oil, four parts of flesh-formers, ten parts of sugar, gum, and other fat-formers, and thirty parts of digestible fibre, and that the price of straw is \$7 50 per ton, (the average price in Ireland,) we have, at that cost, the following quantities of digestible substances:

ONE TON OF OAT STRAW AT \$7 50.

Oil	22.4 lbs.
Flesh-forming principles	89 6 "
Sugar, gum, and other fat-forming substances	224 "
Digestible fibre	672 "
	<hr/>
	1008 "
	<hr/>
Total amount of fat-formers, calculated as starch	952 lbs.
Add flesh-formers	89.6 "
	<hr/>
Total amount of nutritive matter	1041.6 "
	<hr/>

A fair sample of linseed cake contains twenty-six parts of flesh-formers,

twelve parts of oil, thirty-four parts of gum, mucilage, sugar, &c., and six parts of woody fibre, and costs \$55 per ton.

ONE TON OF LINSEED CAKE AT \$55 PER TON.

Flesh-forming principles	582.4 lbs.
Oil	268.8 "
Gum, sugar, and other fat-formers	761.6 "
Woody fibre	74.4 "
	<hr/>
	1687.2 "
	<hr/>
Total amount of fat-formers, calculated as starch	1508 "
Flesh-formers	582.4 "
	<hr/>
Total amount of nutriment	2090 4 "
	<hr/>

These comparisons are instructive and important. From them we learn that we pay \$55 for 2,000 pounds of nutriment when we purchase a ton of linseed cake; whereas, when we invest \$7 50 in a ton of straw, we receive 1,000 pounds of digestible aliment, and it is believed that when the latter article is cut in proper season and well harvested, its composition will be found much superior to that detailed in the comparative analysis.

Digestion is promoted by mixing with the aliment a due proportion of oily or fatty matter. Straw is relatively deficient in the flesh-forming principle and abounds in fat-forming elements, of which, however, the most valuable (oil) is the least abundant. Now, if we add to straw a due proportion of some substance very rich in flesh-formers and oil, the compound will possess, in nicely adjusted proportions, all the elements of nutrition. Perhaps the best food for this purpose is linseed meal, which contains about twenty-four per cent. of flesh-formers, thirty-five per cent. of very bland oil, and twenty-four per cent. of sugar, gum, and mucilage. Linseed cake may be substituted for linseed meal, though the meal is rather the best, but costs fifteen per cent. more. As linseed possesses laxative qualities it cannot be largely used; the addition of bean-meal will neutralize the relaxing influence of the oily seed. Rape-cake will be found more economical than linseed cake. If free from mustard, well steamed, and floured with a little treacle, or a small quantity of locust beans, it will be readily consumed by dairy or fattening cattle.

HUNGARIAN AGRICULTURE.

We find the following facts relating to the productions, resources, &c., of Hungary, in *l'Echo de l'Agriculture*:

The kingdom of Hungary comprises Slavonia, Croatia, the Hungarian coast, and the principality of Transylvania, comprehending a superficies of 5,872 geographical leagues, and constituting fifty-four per cent. of the total superficies of the Austrian empire. The population of the kingdom is 15,200,000 souls, forming forty-nine per cent. of that of the empire. The cultivated surface of the kingdom is occupied as follows:

	Hectares.	Acres.
Arable land	9, 960, 631, 275	or 24, 590, 308, 459
Meadows	4, 112, 440, 825	or 10, 152, 588, 285
Pasturage	4, 976, 533, 575	or 12, 285, 817, 263
Wood	8, 816, 859, 100	or 21, 766, 620, 901
Vineyards	442, 904, 100	or 1, 093, 419, 496
	<hr/>	<hr/>
Total	28, 309, 368, 875	or 69, 888, 754, 404
	<hr/>	<hr/>

which represents fifty-three per cent. of the cultivated surface of the empire. The annual product of cereals and other grains is as follows :

	Hectolitres.	Busbels.
Wheat	17, 500, 000 or	48, 146, 000
Meslin	10, 100, 000 or	27, 787, 120
Rye	17, 500, 000 or	48, 146, 000
Maize	23, 400, 000 or	64, 378, 080
Barley	12, 300, 000 or	33, 839, 760
Oats	22, 200, 000 or	61, 076, 640
Colza	620, 000 or	1, 705, 744
Beans and peas	1, 230, 000 or	3, 383, 976
Total	104, 850, 000	288, 463, 320

The annual product of flour is 25,000,000 quintals of two cwt. each. The exportation of flour from Hungary has increased from about 200,000 quintals in 1850, to over 1,000,000 quintals at the present time.

THE BRITISH COTTON TRADE.

Descriptions.	Imports from Jan. 1 to Nov. 21.		Exports from Jan. 1 to Nov. 21.	
	1866.	1867.	1866.	1867.
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
American	1, 093, 746	1, 117, 026	197, 451	215, 635
Brazil, Egypt, &c	645, 912	637, 122	132, 545	109, 008
East India, China, and Japan	1, 508, 887	1, 156, 319	503, 779	450, 693
Total	3, 248, 545	2, 910, 467	833, 775	775, 336

	Stock, Nov. 21.		Consumption from Jan. 1 to Nov. 21.	
	1866.	1867.	1866.	1867.
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
	694, 730	483, 410	2, 089, 360	2, 188, 210

The above figures show—

A decrease of imports, compared with the same date last year, of	Bales. 338, 078
An increase of quantity taken for consumption of	98, 850
A decrease of actual export of	58, 439
A decrease of stock of	211, 320

The following is the stock of India and eastern cotton on hand :

	Surat and Sceinde.	Madras.	Bengal and Rangoon.	China and Japan.	Total.
Stock November 21, 1867.....	13, 015	48, 476	35, 783	175	107, 094
Stock November 21, 1866.....	19, 377	40, 150	28, 886	3, 647	94, 815
Stock November 21, 1865.....	9, 698	12, 802	10, 818	2, 330	40, 720

IRISH BUTTER.

The receipts of butter at London and Liverpool from Ireland during the last three years were as follows :

	1865.	1866.	1867.
	<i>Firkins.</i>	<i>Firkins.</i>	<i>Firkins.</i>
London.....	73, 351	50, 013	34, 305
Liverpool.....	443, 759	420, 153	420, 261
Total.....	517, 110	470, 166	454, 566

The large decrease is the more remarkable when we compare the above figures with the number of milch cows in Ireland. In 1865 there were 1,387,448 cows; in 1866 they had increased to 1,481,446; and in 1867 to 1,519,720. Assuming that each firkin of butter weighed 90 pounds, the exports of 1865 were equal to 34 pounds for each milch cow. In 1866 they had fallen to 29 pounds, and in 1867 to 27 pounds, to each cow.

While the Irish arrivals in London have decreased, the foreign supply has increased as follows :

Receipts in 1865, 448,264 casks; 1866, 502,979 casks; 1867, 564,668 casks.

The price of Cork butter in October, 1865, was \$32 50; in 1866, \$30; in 1867, \$27 50. The price of Dutch butter in 1865 was \$31 50; in 1866, \$31; in 1867, \$27 50.

AGRICULTURAL RETURNS FOR GREAT BRITAIN.

By a careful average of local averages, from reports similar to those of this department, though not so systematic and general, the following estimates for the present season are made :

Yield of wheat per acre in England and Wales, 24.4 bushels; barley, 33.7 bushels; oats, 41.2 bushels; beans, 27.7 bushels; peas, 22.9 bushels; potatoes, 5.3 tons; turnips, 15.1 tons; swedes, 16.9 tons; mangolds, 20 tons.

From returns received in the statistical department of the British Board of Trade, the aggregate acreage under all kinds of corn crops in England and Wales was 7,941,578 acres, against 7,921,244 acres returned in 1866; and in Scotland 1,367,012 acres, against 1,366,540 acres in 1866.

The land under wheat is returned for England and Wales at 3,255,917 acres, against 3,275,293 acres in 1866; and for Scotland at 115,118 acres, against 110,101 acres in 1866. Estimating the average product of wheat at 28 bushels per acre, the aggregate yield for 1867 would be 94,388,980 bushels, against

94,791,032 bushels in 1866. This year's estimate, however, gives only 24 bushels to the acre, which reduces the crop to about 81,000,000 bushels.

The number of cattle is returned for England and Wales at 4,017,790, against 3,848,435 in 1866; and for Scotland as 979,170, against 937,401 in 1866.

Sheep are returned for England and Wales to the number of 22,097,286, against 16,793,204 in 1866; and for Scotland to the number of 6,893,603, against 5,255,071 in 1866. The large increase in the number of sheep returned in 1867, as compared with the previous year, is accounted for by the fact that the returns in 1866 were made for the purpose of the cattle-plague inquiry at a date preceding the lambing season in some parts of Great Britain.

MOVEMENT OF LIVE STOCK IN FRANCE.

The imports of live stock into France in the first eight months of this year were as follows, as compared with the corresponding periods of 1866 and 1865:

Description.	1867.	1866.	1865.
Stallions.....	874	460	549
Geldings.....	8,782	4,999	4,646
Mares.....	3,797	1,806	1,662
Colts.....	1,303	1,170	1,029
Mules.....	301	194	145
"Beasts".....	73,951	37,507	37,990
Bulls.....	996	1,088	1,428
Heifers.....	2,000	1,035	1,587
Cows.....	39,899	24,496	45,541
Young bulls.....	2,326	530	1,189
Calves.....	23,415	22,468	33,599
Sheep.....	613,085	405,172	509,320
Pigs.....	63,463	24,955	29,742
Sucking pigs.....	44,690	5,608	53,602

The exports of live stock from France in the same periods were as annexed:

Description.	1867.	1866.	1865.
Stallions.....	410	686	902
Geldings.....	1,978	10,204	1,908
Mares.....	1,088	6,388	1,865
Colts.....	644	290	599
Mules.....	9,274	11,478	13,122
"Beasts".....	32,944	37,158	14,663
Bulls.....	396	738	387
Cows.....	6,486	10,748	9,485
Young bulls.....	60	267	178
Calves.....	6,568	11,939	7,958
Heifers.....	329	1,115	500
Sheep.....	52,391	138,246	69,677
Pigs.....	30,366	44,293	40,275
Sucking pigs.....	15,748	6,665	12,011

The imports of "beasts" and sheep will be seen to have largely increased this year, while the exports have declined—a state of things which is probably attributable to the exceptional demand occasioned for animal food in France, in consequence of the Paris Exposition.

DOG TAX IN ENGLAND AND SCOTLAND.

The reduced dog tax seems likely to be better collected than the higher duty has been. The tax on dogs in England was assessed at only 301,281 dogs in 1856; in 1866 the number had increased to 358,472, and 79,281 dogs were returned by surveyors of taxes as exempt. Between the 6th of April and the 31st of July, 1867, 656,977 dog licenses were taken out; 367,775 were granted by stamp distributors, and 220,202 by officers of excise. In Scotland only 36,365 dogs were assessed for taxation in the year ending the 24th of May, 1866, and 44,556 were returned by surveyors of taxes as exempt. Between the 25th of May and the 31st of July, 1867, 88,481 dog licenses were granted.

CALIFORNIA ITEMS.

George Gordon, of San Francisco, states that an arrangement has been made with an association of German and French gentlemen, now engaged in the sugar business in Europe, to erect in California factories for the manufacture of raw sugar from beets, upon condition that the beets grown in 1868, from seed, prove as rich in saccharine matter as represented; that the sugar refineries then contract for the raw sugars, and that the land-owners contract to grow sufficient beets to keep the several factories working—about fifteen hundred acres to each factory. The parties propose to invest \$1,500,000 in the business, and to send over six hundred to seven hundred skilled workmen.

During the past ten years California has imported an average of three thousand firkins of butter per month, at an expense of over \$1,000,000 annually. There is no good reason why California should not export twice the quantity of butter now imported.

The great ox "Oregon Baby" died in San Francisco last month, when he was being fatted for Christmas. He weighed 3,080 pounds, and was daily increasing.

A strawberry patch of one hundred and thirty acres is reported in Alameda county, California.

It is claimed that California has this year produced thirty-four million gallons of wine.

J. Landsberger, of San Francisco, manufactures monthly two hundred dozen champagne, from California wines. He has on hand twenty-five thousand bottles of it, in different stages of ripening.

The French journal *L'Invention*, in speaking of the California wines at the exhibition, says: "We believe this manufacture is destined at no distant day to compete successfully with us in the markets of the New World."

The sheep firm of Flint, Bixby & Co, Monterey county, California, own 75,000 sheep, which feed on a range of 200,000 acres. The firm commenced sheep raising fifteen years ago with a capital of \$5,000. The first flock was of the common Mexican breeds, which have been improved by imported fine-wool rams.

The receipts of flour and wheat at San Francisco, from July 1 to November 27, aggregate, in round numbers, 4,000,000 centals (100 pounds,) being an increase of about 1,000,000 centals over the same period of 1866. Exports for same time, 3,000,000 centals—1,000,000 centals greater than during corresponding period of last year. The San Francisco Commercial Herald estimates a further export of 2,000,000 centals for the crop of 1867.

Hop culture is receiving more attention in California. An Englishman in Los Angeles county claims to have raised two thousand pounds to the acre. The State now imports more than it produces.

A company is organizing in Marysville for the construction of a mill for the manufacture of oil from flaxseed, sunflower seed, castor beans, mustard seed, &c.

From January 1 to October 1, of the current year, one hundred and seventy-four ships sailed from San Francisco with cargoes of wheat; of which one hundred and thirteen went to Europe, thirty-one to Atlantic ports, and twenty to China.

A pear weighing three pounds is reported to have grown on a yearling tree in Placer county.

The treasure receipts at San Francisco for October last amounted to \$4,333,000; the exports of specie for the same period, \$3,026,722.

Experiments with the Early Goodrich potato in Amador county show a product of one hundred pounds from one pound of seed, and also demonstrate that two crops a year can be grown upon the same ground.

The Marysville Gas Company is consuming the castor bean cake for making gas. The cake costs about twenty dollars per ton.

FACTS FROM VARIOUS QUARTERS,

According to the census of 1840, the hop crop of the United States was but 1,238,412 pounds. In 1850 it had increased to 4,467,029 pounds; in 1860 the product was nearly 11,000,000 pounds, and this year it will probably reach 20,000,000 pounds; one-half of which are grown in New York; Wisconsin ranks next, raising about 7,000,000 pounds, of which Sauk county produced 4,000,000.

The cranberry crop of 1867 is estimated at not less than 187,500 bushels; New Jersey producing 105,000 bushels, New England 37,500 bushels, and the western States 45,000 bushels; at an average of \$4 per bushel the crop will yield \$750,000.

Mr. George W. Blanchard, of Gardiner, Maine, reports to the Maine Farmer that he last spring set out seven hives of bees, with the following results: 526 pounds of box honey at 30 cents, \$157 80; 70 pounds at 25 cents, \$17 50; one swarm sold, \$10; two swarms unsold, \$20; total, \$205 30; leaving the original hives strong in bees and well supplied with honey. Mr. B. attributes his success mainly to the fact that his hives were transferred, with the drone combs left out, together with early spring feeding to promote breeding, and plenty of box room. He had but four swarms, three coming from one hive.

One of the principal exports of Texas is cattle, yet the State imports butter, cheese, and even milk.

The salmon eggs placed in the trout ponds at Charlestown, New Hampshire, commenced hatching on the 11th instant.

The anthracite coal production for 1867 will aggregate about 12,000,000 tons, an increase of 350,000 tons over the preceding year.

The petroleum exports from January 1 to December 24, 1867, from the port of New York, reach 33,190,037 gallons, and from other ports, up to 21st Decem-

ber, 32,317,916 gallons; total, 65,507,953 gallons; against 65,973,641 gallons for same time in 1866, 28,115,915 gallons in 1865, and 31,811,842 gallons in 1864.

The fruit sent to the Chicago market this year was sold for \$1,250,000.

In central Illinois twenty acres have been planted with apple seed this year. The trees are large enough to graft, and are estimated to number 2,500,000.

T. V. Hayden, United States geologist for Nebraska, states that there are, in the basin between the South Boulder and Clear creek, at the base of the Rocky mountains, in Colorado, from eight to eleven beds of coal, from five to thirteen feet in thickness, making an aggregate thickness of at least thirty to fifty feet of solid coal.

Imported eggs cost Great Britain from eight to ten millions of dollars last year.

There are several potato starch factories in successful operation in Coos county, New Hampshire. One establishment at Milan last season manufactured starch enough to pay for the mill and all expenses. Another, in Jefferson, cleared \$6,000. They pay thirty cents per bushel for potatoes.

It is said that there are not enough hogs in North Carolina to eat the mast in the woods.

The cheese factory at Elkhorn, Wisconsin, has manufactured 36,665 pounds of cheese the past season.

Attempts have been made to acclimatize the English sparrow in Canada.

The annual yield of the Nova Scotia coal mines is estimated at \$1,200,000; gold mines, \$600,000.

The Cambridge (Massachusetts) Horticultural Society recommends the following as the best varieties of pears for family use in that locality: Bartlett, Louise Bon, Seckel, Sheldon, Duchess D'Angouleme, Beurre D'Anjou, Lawrence, Hovey, Le Cure, Rostiezer, and Doyenne l'Ete. Of these, according to Mr. Quinn, of New Jersey, who speaks from an experience of seventeen years, only five have been profitable in the latter State, and his highest success has been with the Duchess and the Bartlett.

The Tennessee legislature has before it a bill for the protection of wool-growers, by which dogs will be taxed \$2 a head; one dog to each family to be exempt.

Two hundred and seven river barges, with an average capacity of 150 tons, are engaged in the St. Paul trade. Nearly all the grain and flour shipped by the river is freighted in barges.

Orders in council have been issued permitting the importation of horses, hoofs, and hides into England.

France sows annually about 14,000,000 acres with wheat, which yields a variable crop of 225,000,000 to 300,000,000, and even 330,000,000 bushels. The best wheat lands pay a rent of from \$10 to \$20 per acre, and yield from 37 to 52 bushels per acre. On many other lands, however, the yield is only 14 to 18 bushels.

The "mud crop" of the streets of Paris is sold annually. In 1823 it brought \$15,000. It now brings \$120,000; and when left in rotting tanks is sold for manure at the increased valuation of \$600,000.

METEOROLOGY.

[Compiled in the Department of Agriculture from the reports made by the observers for the Smithsonian Institution.]

OCTOBER AND NOVEMBER, 1867.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature and amount of rain, (in inches and tenths,) for October and November, 1867, at the following places, as given by the observers named. The daily observations were made at the hours of 7 a. m. and 2 and 9 p. m.

States and places.	OCTOBER, 1867.						NOVEMBER, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.
MAINE.												
Steuben	19	68	5, 24	27	46.1	7.20	4	56	20	7	34.4	4.29
Lee	19	71	5	24	46.8	3.05						
West Waterville...	19	76	4	30	48.4	5.30	11	54	19	10	32.6	2.05
Gardiner	19	68	25	31	46.4	4.60	2	59	19	12	34.5	2.85
Lisbon						5.23						3.80
Standish	19	74	25	31	47.5	2.99	10	60	19	4	32.6	2.30
Cornish	19	74	24	27	46.8	4.25	10	61	19, 30	8	32.2	2.24
Cornishville	19	74	23	32	48.2	4.62	2, 10	59	19	10	33.0	2.55
Averages.....					47.2	4.66					33.2	2.95
NEW HAMPSHIRE.												
Stratford	19	73	24	22	44.2	3.46	2, 10	60	30	0	28.6	3.11
North Barnstead...	19	74	23, 24	33	50.0	2.61	10	62	19, 30	12	37.1	2.41
Claremont	19	75	24	25	48.0	3.70	11	65	19	4	34.8	2.42
Portsmouth.....	17, 18	70	24	30	51.0							
Averages.....					48.3	3.26					33.5	2.65
VERMONT.												
Lunenburg	18, 19	70	2	22	55.7	1.50	10	58	30	1	30.1	2.50
North Craftsbury ..	19	68	24	25	44.5	3.42	2, 10	56	7	3	29.2	2.22
Randolph	18	70	24	23	48.6	4.00	2	60	19	1	31.9	1.22
Middlebury.....	18	69	4	30	49.0	3.48	10	62	30	7	34.6	1.12
Averages.....					49.5	3.10					31.5	1.78
MASSACHUSETTS.												
Kingston	19	80	25	32	52.4	4.25	2	66	19	15	42.7	1.28
Topsfield	19	77	24, 26	32	51.6	6.43	3	67	19	17	42.2	2.57
Lawrence	19	73	24	29	48.3	4.79						
Georgetown	19	78	25	32	51.0		2	65	19	13	38.3	
Newbury.....	18, 19	75	24	29	49.4		2	64	19	13	37.6	
Milton	19	78	25	28	51.8	2.74	9	70	19	12	36.9	3.80
North Billerica.....	10	78	25, 26	30	49.5		10	61	19	12	38.1	

Table showing the range of the thermometer, &c., for Oct. and Nov.—Cont'd.

States and places.	OCTOBER, 1867.						NOVEMBER, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.
MASS.—Continued.		°		°	°	In.		°		°	°	In.
West Newton.....	18	83	24, 25	28	53.0	4.00	9	73	19	12	37.0	2.35
New Bedford.....	19	74	24	33	53.1	3.91	9	64	19	16	40.9	3.00
Worcester.....	18, 19	75	24	31	51.4	3.79	9	68	19	12	38.6	2.19
Mendon.....	18	74	24	30	49.4	.....	10	63	19	11	37.5	.....
Lunenburg.....	19	77	24	31	50.1	3.45	10	65	19	8	36.0	2.05
Amherst.....	18	76	25	27	49.9	3.85	2, 10	65	19, 30	16	37.9	4.31
Richmond.....	18	76	24	26	52.2	6.12	3	67	18	10	37.1	4.47
Williams College...	18	73	24	25	48.9	1.27	2, 10	63	30	12	36.4	3.39
Averages.....					50.8	4.05					38.4	2.93
RHODE ISLAND.												
Newport.....	19	76	24	30	51.5	4.35	9	63	19	15	4.00	3.14
CONNECTICUT.												
Pomfret.....	19	75	24	32	49.3	3.21						
Columbia.....	18, 19	80	24, 25, 26	32	53.4	.....	3	62	18	16	39.9	.....
Middletown.....	19	79	24	28	52.4	4.12	2	69	18, 30	19	40.3	2.75
Colebrook.....	19	78	24	23	48.6	.....	10	64	18, 30	9	35.1	.....
Groton.....	20	78	25	30	54.3	5.01	9	68	19	17	41.6	2.12
Averages.....					51.6	4.11					39.2	2.44
NEW YORK.												
Moriches.....	19	84	25	35	57.8	6.82	2	69	19	21	46.6	2.99
South Hartford....	16	78	13, 23	28	53.4	2.72	1, 11	68	18, 30	14	38.9	3.00
Troy.....	18	77	24	32	51.6	3.20	2	66	30	15	39.7	1.64
Germantown.....	19	80	25	33	.....	4.10	2, 10	68	18	18	41.4	3.00
Garrison's.....	18	78	24, 25	33	52.0	4.26	10	63	30	18	42.0	2.60
Throg's Neck.....	19	80	24	40	56.0	.....	9	67	30	20	44.0	.....
Deaf and Dumb Ins..	16	76	24	39	54.3	5.12	9	67	19	20	44.1	2.25
Columbia College..	19	75	2	32	53.1	2.11	9	64	30	21	42.7	1.61
St. Xavier's College.	19	77	24	38	54.2	4.47	9	66	30	22	41.2	1.86
Stapleton.....	2	87	25	38	57.5	3.83	2	71	19	21	45.6	.....
Flat Bush.....	2, 19	72	24	35	54.1	4.74	10	62	30	19	46.5	1.96
Newburgh.....	18	81	24	37	54.5	5.86						
Minaville.....	20	70	24	29	48.2	.....	5	71	30	10	37.6	.....
Gouverneur.....	21	74	24	28	46.6	3.09	10	64	18	5	.....	1.87
North Hammond...	18	75	23	29	47.0	5.08	9	62	19	7	35.0	3.17
South Trenton....	21	76	1	26	46.9	3.84	5	71	18	10	36.5	4.86
Cazenovia.....	20	83	8	28	49.5	.....	9	63	18	11	36.9	.....
Oneida.....	20	81	26	26	48.7	4.12	9	66	18	14	37.9	2.93
Houseville.....	20	80	1	30	48.2	3.80						
Delpauville.....	21	75	1	29	49.4	3.94	9	59	19	8	36.4	2.31
Theresa.....					3.15	.....			18	1	.....	2.57
Oswego.....	17	75	4	33	49.3	1.28	9	61	30	16	39.5	1.67
Palermo.....	20	78	26	25	48.2	1.09	9	64	18	12	36.6	1.40
Nichols.....	19	81	27	24	49.2	.....	2	66	18, 30	14	39.9	.....
Geneva.....	20	80	8, 24	33	52.2	1.50	9	68	30	13	40.0	0.33
Rochester.....	19, 20	78	4, 8, 25, 26	32	51.0	1.92						
Rochester Univ'y..	19, 20	78	25	21	51.0	1.92	8	64	30	13	39.0	.....

Table showing the range of the thermometer, &c., for Oct. and Nov.—Cont'd.

Sta'es and places.	OCTOBER, 1867.						NOVEMBER, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.
NEW YORK—Con'd.												
Little Genesee.....	20	80	26, 27	19	47.6	1.10	8	65	30	14	37.6	In. 0.60
Suspension Bridge ..	20	80	27	27	50.1	2.00	-----	-----	-----	-----	-----	-----
Buffalo.....	20	80	8	30	51.8	2.43	8	63	30	11	41.3	0.85
Averages.....	-----	-----	-----	-----	47.6	3.36	-----	-----	-----	-----	40.3	2.07
NEW JERSEY.												
Paterson	19	80	24	30	53.7	4.38	9	68	19	16	42.4	2.75
Newark	19	75	25	35	53.9	4.62	9	68	19	19	43.4	1.95
New Brunswick ..	19	79	25	33	54.2	4.18	2	68	19	19	42.7	1.68
Trenton	20	74	25, 27	40	57.7	3.96	9, 10	66	19	27	47.7	2.33
Burlington	19	79	25, 26	36	57.7	4.50	2	66	19	21	46.7	2.70
Moorestown	19	84	26	33	55.5	4.27	9	70	19	18	44.9	2.25
Mount Holly	19, 20	77	25	33	55.0	-----	9	71	19	21	46.1	-----
Seaville	19, 20	88	7, 8	36	56.6	4.60	2, 3, 9, 10, 11	68	20	26	46.3	2.61
Dover.....	19	78	24	29	52.4	4.60	10	63	19, 30	19	41.5	1.15
Haddonfield	19, 20	78	25	36	55.4	4.60	9	72	19	23	45.6	3.38
Greenwich	19	79	24, 25	37	55.8	2.37	9	72	19	19	46.8	1.24
Newfield	20	87	-----	-----	-----	-----	9	75	19	15	46.6	-----
Vineland	19	83	8, 25	32	55.0	3.73	9	77	19	16	45.7	1.49
Elwood	20	84	1, 24, 27	32	55.0	-----	9	72	19	14	45.4	-----
Averages.....	-----	-----	-----	-----	55.2	4.16	-----	-----	-----	-----	45.1	2.14
PENNSYLVANIA.												
Nyces.....	2	87	24	20	48.7	3.10	2	65	30	11	38.6	2.10
Fallsington	19	78	25, 26, 27	38	55.0	3.40	2	68	19	20	44.7	1.90
Philadelphia.....	19	80	8, 25	39	56.7	4.02	9	68	19	25	47.0	2.54
Germantown	19	82	24, 25	34	56.1	-----	10	63	19	14	49.9	-----
Horsham	19	80	24, 25, 26	34	54.1	5.75	-----	-----	-----	-----	-----	-----
Dyberry	19	80	24, 25, 26	22	47.8	-----	2, 8	64	30	12	37.2	1.30
Whitehall	18, 19	76	25, 26	28	52.1	-----	9	66	20	19	42.4	-----
Parkesville	20	81	25	33	55.3	2.70	9	70	30	22	45.2	1.67
Reading.....	18, 19	75	25	33	53.7	-----	9	71	30	23	45.4	-----
Ephrata.....	20	83	24, 26	36	57.8	2.72	9	72	30	22	47.2	0.57
Mount Joy	20	81	25	32	56.1	4.50	-----	-----	-----	-----	-----	-----
Harrisburg	19	76	25	37	55.2	3.14	2	66	30	24	44.4	0.89
Ickesburg	18, 19	85	25	26	52.7	4.93	2	71	20	17	42.9	1.33
Lewisburg.....	18	78	24	27	50.4	2.78	-----	-----	-----	-----	-----	-----
East Tioga	19	84	25	20	49.7	2.65	-----	-----	-----	-----	-----	-----
Pennsville.....	20	77	24, 25, 26	22	46.7	2.89	-----	-----	-----	-----	-----	-----
Franklin	19, 20	81	26	24	49.9	-----	2, 8	66	30	14	40.6	-----
Connellsville	2	80	24	26	51.6	-----	8	69	30	10	43.1	-----
Beaver Seminary..	17	78	25	30	53.1	2.48	2	65	30	19	43.2	1.40
New Castle	19, 20	81	1, 24	32	54.5	-----	2	68	30	20	45.8	-----
Canonsburg	19	89	24, 25	24	52.1	2.85	-----	-----	-----	-----	-----	-----
Averages.....	-----	-----	-----	-----	52.8	3.42	-----	-----	-----	-----	43.8	1.52
MARYLAND.												
Woodlawn	19, 20	85	8	38	-----	-----	2	72	19	17	45.8	2.32
Catonsville	19	78	24	36	55.1	-----	10	70	30	24	45.2	-----

Table showing the range of the thermometer, &c., for Oct. and Nov.—Cont'd.

States and places.	OCTOBER, 1867.						NOVEMBER, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.
MARYLAND—Con'd.		°		°	°	In.		°		°	°	In.
Annapolis	18, 19	78	25	36	57.5	5.52	9	71	19	24	48.4	2.37
Emmitsburg	19	88	25	24	55.7	.....	2, 8	72	30	18	44.9	.....
Mt. St. Mary's Col. .	19	77	25	35	53.7	5.39	2	67	30	18	43.3	1.18
Averages					55.5	5.46					45.5	1.96
VIRGINIA.												
Cape Charles L. H. .	19	83	24	46	64.0	2.62	2	74	30	24	52.5	2.78
Surry C. H.	3	89	31	40	60.5	.....	9	80	30	26	52.3	.....
Lynchburg	3	77	25, 31	36	57.8	.....	2, 8, 10	66	30	27	51.4	.....
Comorp						4.67						1.28
Snowville	3	83	25	16	49.5	15.88	3	70	30	12	42.6	2.75
Averages					58.0	7.72					49.7	2.27
WEST VIRGINIA.												
Romney	2, 19	86	24, 25	30	56.2	.....	8	78	30	20	47.5	.....
Grafton	2	88	24, 25	32	57.5	4.80	8	75	30	16	47.9	1.50
Cabell C. H.	19, 20	78	24	34	55.3	3.70	9	68	30	19	46.5	1.60
Averages					56.3	4.25					47.3	1.55
NORTH CAROLINA.												
Goldsboro'	3	90	29	40	61.5	4.75	3, 10	82	6	31	55.3	2.15
Oxford	3	81	24, 25	38	59.1	6.80	2, 3, 9	70	13, 20	30	50.3	2.50
Raleigh	3	89	24	38	57.8	4.50	3	74	30	25	48.1	2.70
Albemarle	3	89	8	35	57.6	8.58	3	80	6	22	51.4	1.92
Statesville	3	84	25	28	53.4	4.63						.....
Asheville	3	81	31	31	54.0	.....	3	72	30	17	47.8	.....
Averages					57.2	5.85					50.6	2.32
SOUTH CAROLINA.												
Aiken	3	85	31	42	61.3	4.27	2	75	13	32	56.9	2.61
Gowdysville	3	83	31	38	59.6	.....	2	72	6, 13, 30	31	53.9	.....
Averages					60.5	4.27					55.4	2.61
ALABAMA.												
Moulton	2	82	13	41	59.7	1.41						.....
Carlowville	1	88	31	43	64.3	2.87						.....
Fish River	17	88	30	48	69.4	1.45	23	92	30	31	60.9	2.59
Opelika	1	83	31	44	64.6	.....	2	75	30	28	52.8	.....
Greene Spring	2	90	31	45	64.6	1.38	8	77	30	28	56.2	3.83
Prairie Bluff	21, 22	86	31	40	68.8	.....						.....
Averages					65.2	1.78					56.6	3.21
FLORIDA.												
Jacksonville	2, 12	82	31	52	73.9	4.70	4	85	13, 30	42	64.2	0.40
Port Orange	1, 3	85	30, 31	58	75.3
Gordon	9	84	13	38	64.0
Averages					74.6	4.70					64.1	0.40

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TENNES.												
Columbia.....	1, 3, 4, 5	92	31	48	72.2	7h. 9.06		°		°	°	In.
Waco.....	4	94	30	43	70.3	2.10	8	82	30	24	58.2	1.10
Austin.....	4	96	31	45	71.6	2.08	9	83	30	28	59.4	2.98
Gilmer.....	14, 21	87	31	34	65.0							
Averages.....					69.8	4.41					55.8	2.04
LOUISIANA.												
Benton.....	3	86	31	38	67.8		2	76	30	28	57.3	
New Orleans.....							27	78	30	42		
MISSISSIPPI.												
Grenada.....	2	90	31	33	66.1		14	80	30	24	61.8	
Fayette.....	2	80	31	28	59.5							
Natchez.....	2	85	31	42	68.3	0.70	3	76	30	30	57.9	5.53
Averages.....					64.6	0.70					59.9	5.53
TENNESSEE.												
Tusculum College.....	4	80	31	33	55.8							
Lookout Mountain.....	3	88	31	34	62.5		2, 3	74	30	12	52.6	
Clarksville.....	2, 3	87	31	33	69.6	1.98	2	75	30	15	49.6	5.94
Franklin.....	3	89	31	31	61.5		2	80	29	16	50.7	
Memphis.....	3	88	31	33	61.9	1.89	2	77	30	18	53.0	3.59
Nashville.....							8	71	30	18	48.2	
Averages.....					62.3	1.94					50.8	4.77
KENTUCKY.												
Chilesburg.....	2	88	24	34	54.4	0.78	2, 8	72	30	10	46.5	3.01
Louisville.....	2	89	24	28	57.0	0.74	8	75	30	11	47.7	4.56
Danville.....	3	90	24	36	60.4	0.70						
Averages.....					57.3	0.74					47.1	3.54
OHIO.												
New Lisbon.....	19, 20, 21	80	25	25	51.6	2.74						
Stuebenville.....							8	70	30	20	44.7	1.23
Painesville.....	19	79	31	35	53.0	4.50	3	65	30	14	43.3	2.43
Milnersville.....	18	82	24	22	50.0	2.33						
Cleveland.....	19	81	24	32	53.6	3.56						
Wooster.....	19	86	24	29	54.2		8	68	30	13	43.9	
Kelley's island.....	20	78	23	38	56.7	1.68	8	66	30	17	44.9	1.31
Norwalk.....	19, 20	82	24	28	53.9	1.63	8, 25	67	30	14	44.2	1.20
Greenwich.....	20	86	30	32	56.0	2.26	8	68	30	7	45.7	2.18
North Fairfield.....	18	84	24, 30	30	54.1	1.65	1	72	30	12	44.9	1.75
Marion.....	18, 19	78	24	26	52.0	2.56	8	76	30	12	41.7	2.87
Williamsport.....	27	76	7	29	47.3	4.26	2	76	30	20	43.7	4.11
Toledo.....	19, 20	78	24	30	53.6	2.88	8	65	30	13	43.4	2.00
Bowling Green.....	18	89	24	22	53.9	2.30	8	69	30	13	44.0	2.71
Kenton.....	19	86	24	39	57.9	6.25	2	70	30	28	49.0	5.91
Urbana University.....	18, 19	80	24	30	54.7	2.01	2	71	30	8	45.1	2.14
Hillsboro'.....	2	80	30	33	54.0	3.07	8	68	30	10	44.7	2.7

Table showing the range of the thermometer, &c., for Oct. and Nov.—Cont'd.

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OHIO—Cont'd.												
Bethel	2	85	24	32	50.8	In. 2.25	8	71	30	8	42.8	In. 2.50
Cincinnati	2, 18	81	30	44	60.4	3.10						
College Hill	2	87	30	35	57.2	1.63	3	70	30	8	46.5	3.63
Averages					53.9	2.81					44.5	2.59
MICHIGAN.												
Monroe City	18	86	23	36	55.9	1.87	8	72	30	10	43.3	1.50
State Agric. College	19	79	24	22	50.7	2.11	8	66	30	7	40.4	1.77
Litchfield	19	82	24	31	52.5	3.89	1, 3, 8	64	30	6	40.5	3.30
Grand Rapids	19	84	23, 24	28	52.8		1, 8	64	30	10	41.5	
Northport	20	80	23	32	51.6		8	66	30	10	39.7	
Otsego	20	84	23	32	54.0							
Holland							1	78	30	12	44.1	3.14
Copper Falls	20	75	3, 19, 22	32	45.5	2.60						
Ontonagan	20	76	3, 4, 22	32	47.2							
Averages					50.0	3.62					41.6	2.43
INDIANA.												
Richmond	2, 18	78	24	30	52.0	2.72						
Aurora	2	84	24	32	53.8	2.01	8	73	30	8	43.7	3.40
Vevay	2, 20	90	24	28	57.9	1.64	8	77	30	10	47.0	3.50
Muncie	2	82	24	31	54.4	2.85	2, 8	70	30	5	44.0	
Spiceland	2	82	23	32	54.1	2.70	2	71	30	4	43.9	2.35
Columbia City	17, 18	80	24	26	49.5	0.48	8	66	30	5	40.0	3.38
Indianapolis	1	82	30	30	53.4	2.61						
Merom	2	82	31	31	54.8	2.10	2, 8	68	30	3	46.0	2.55
New Harmony	2	85	30	34	59.7	0.81	2	73	29, 30	11	48.3	3.13
Averages					53.4	1.99					44.7	3.05
ILLINOIS.												
Chicago, (B)	19	90	30	32	57.8		1	73	30	0	43.1	
Do....(L)	19	81	30	35	56.8	1.28	1	69	30	6	44.8	1.89
Golconda	3, 20	89	30	28	55.9	0.90	4	72	30	10	45.4	3.20
Aurora	19	82	24	26	52.4	1.21	1	68	30	1	39.3	2.17
Sandwich	18	80	24	24	51.4	0.44						
Ottawa	19	87	23, 24	34	54.5	0.92	1	74	29	9	42.1	1.12
Winnebago	19	84	23, 30	27	52.4	0.50	1	68	30	— 2	40.1	1.68
Hennepin	19, 20	85	24	28	56.0		1	70	30	4	43.0	
Rochelle	18, 19, 20	81	23	25	51.0		1	70	30	— 3	39.0	
Wyandot	18	85	24	28	55.1	0.97	1	72	30	4	43.9	2.40
Tiskilwa	18, 19	80	24	28	52.1		1	70	30	3	42.1	
Elmira	18, 19	83	23, 24	31	52.9	0.92						
Peoria	19	84	24	30	55.3	1.10	1	72	30	3	44.6	1.93
Springfield	18	84	24	26	56.2		2	80	30	2	46.7	
Loami	18	86	24	28	55.6	2.00						
Waterloo	2	94	30	35	61.6		2	76	30	10	50.5	
Dubois	18	84	31	26	58.5	1.20	2	74	30	— 1	46.3	2.30
Galesburg	19	82	29, 30	32	53.1	0.95	1	69	30	2	42.6	1.45
Manchester	18, 19	87	28, 29	32	57.6	1.42						

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ILLINOIS—Cont'd.		°		°	°	In.		°		°	°	In.
Mount Sterling	16, 18, 19	83	29	32	57.2	-----	1	75	30	- 1	45.4	-----
Andalusia	18	80	23	32	55.4	-----	1	68	30	- 6	44.2	-----
Augusta	18	80	29	34	56.5	0.99	2	70	30	-12	46.1	1.33
Averages					55.2	1.06					43.9	1.95
WISCONSIN.												
Manitowoc	16	77	23, 29, 31	34	50.6	1.74	8	62	30	- 3	38.9	1.88
Plymouth	18	77	24	29	48.1	2.10	1, 8	64	30	- 2	37.0	3.50
Milwaukee	16, 19	80	29, 30	38	52.1	0.80	1	67	30	1	40.8	1.53
Appleton	17	80	30	38	58.0	-----	17	72	30	- 6	40.1	-----
Geneva	19	80	23	28	51.4	-----	1	67	30	0	40.1	-----
Delavan	18, 19	79	23	26	51.0	0.73	1	65	30	- 4	39.0	1.74
Waupacca	20	76	23	30	50.1	-----						
Embarrass	20	78	23	26	47.5	1.62	8	58	30	- 8	34.7	2.00
Edgerton	19, 20	82	23	26	50.7	1.50	1, 8	66	30	- 5	39.7	1.90
Baraboo	16	80	30, 31	30	52.2	3.00	1	65	30	- 2	40.9	3.84
New Lisbon	18, 20	80	22	30	50.5	-----	22	75	30	- 8	37.3	-----
Averages					51.1	1.64					38.9	2.34
MINNESOTA.												
St. Paul	15	73	31	27	47.3	2.02	1	65	30	- 6	34.1	0.58
Minneapolis	15	72	26, 31	28	47.9	0.92	1	63	30	- 6	34.2	0.68
Sibley	19	78	31	18	48.5	0.35						
New Ulm	15, 19	78	31	25	51.0	0.99	1	68	30	- 8	37.4	0.13
Averages					48.7	1.07					35.2	0.46
IOWA.												
Clinton	15, 19, 20	86	30	30	56.2	0.96						
Davenport	18, 19	79	29	34	53.1	1.56	1	67	30	3	41.7	4.42
Dubuque	19	76	30	28	51.9	1.32	1	64	30	-----	40.2	1.38
Monticello	19	79	31	24	51.2	1.15	1	68	30	3	37.3	0.90
Fort Madison	18	81	23, 31	32	55.1	1.30	1	68	30	- 1	43.8	1.72
Guttenberg	19	82	23	20	49.6	-----	1, 13	68	30	- 3	37.9	-----
Ceres	20	82	30, 31	28	53.2	-----	7, 13	66	29	2	40.5	-----
Mount Vernon	19	79	30, 31	31	54.2	-----	1	76	30	- 1	40.2	-----
Iowa City	18	80	13	32	54.5	2.06	1	72	30	-----	41.6	1.97
Independence	1, 19	80	31	23	50.4	2.70	1	70	30	- 7	37.4	0.30
Do	18	81	30	21	51.1	2.00	1	69	30	- 3	37.6	0.20
Waterloo	19	80	31	26	57.0	-----	1, 13, 15, 21	68	30	-----	39.7	-----
Marble Rock	19	74	31	26	52.1	-----	1	69	30	- 6	40.6	-----
Algona	18	80	23	25	49.5	-----						
Do. (Dr. W.)	19	80	31	24	50.6	-----	1	62	30	-10	30.4	1.05
Dakota	18, 19	79	23, 31	27	50.2	-----						
Fontanelle	1	81	31	29	52.2	3.00						
Logan	7	88	23, 30	28	60.0	2.92	1, 7, 13, 22, 23	70	29, 30	3	41.5	0.10

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IOWA—Cont'd.												
Fort Dodge.....	18, 19	77	23	29	51.3	1.67	1	70	30	— 1	39.2	0.02
Boonsboro'.....							7	71	30	2	39.6
Averages.....					52.8	1.88					39.4	1.21
MISSOURI.												
St. Louis University	2	89	30, 31	37	58.3	1.40	2	73	30	11	49.0	2.09
Allenton.....	2	100	31	24	56.1	1.54	2	84	30	— 5	45.0	2.24
Hermitage.....	2	93	29	28	58.0	2.32	2	80	30	— 8	45.5	1.63
Rolla.....	2	92	31	23	55.4	1.50	2	80	30	— 9	44.0	2.08
Harrisonville.....	1	84	30	30	56.4	1.74	2	76	30	8	46.1	0.86
Oregon.....	1	91	30	31	56.8	2.10	1	77	30	3	46.0	0.40
Averages.....					56.8	1.77					45.9	1.22
KANSAS.												
Olatha.....	1	89	30	26	55.6	2.00						
Atchison.....	1	90	30	29	56.7	0.70	1, 7	76	30	4	43.0	0.13
Holton.....	1	94	30	28	54.2							
State Agric. College	1	92	30	29	57.5	0.91						
Council Grove.....	1	93	30	24	58.1	0.05	1, 7	78	29	7	45.4	1.30
Baxter Springs....	2	98	30	18	63.3	0.26	2	87	30	2	50.5	2.30
Averages.....					57.6	0.78					44.7	1.24
NEBRASKA.												
Elkhorn.....	19	87	30	26	52.9	.....	7	76	29	1	40.9	0.05
De Soto.....	1	86	30	27	52.5	1.07	7	73	29	5	40.0	0.03
Glendale.....	16	87	22, 23	22	52.2	1.05	1	78	29	— 7	38.9	0.05
Dacota.....	19	82	30	28	52.0	.....	13	72	29	5	39.7	.....
Averages.....					52.4	1.06					39.9	0.04
UTAH TERRITORY.												
Gt. Salt Lake City	14	78	30, 31	34	56.4	1.41						
Wanship.....	7	86	10	26	50.1	.....					
Averages.....					53.3	1.41						
CALIFORNIA.												
Monterey.....	11	84	24	37	56.2	0.71						
OREGON.												
Corvallis.....	11, 13	72	22	24	.....	.....				
WASHINGTON TER.												
Port Townsend....	10	64	27	32	49.0	0.58						

NOTES OF THE WEATHER.—OCTOBER, 1867.

FROM THE SMITHSONIAN INSTITUTION.

Cornish, Maine.—Mean temperature of October 2.23° above the average of the month for thirty-five years.

Standish, Maine.—October 22.—Thunder shower in the evening.

Lisbon, Maine.—October 29, 30.—Quite a severe northeast storm of rain.

Steuben, Maine.—October 6.—Severe storm last night; two and a half inches of rain fell, the most of it in about an hour. 30th, 31st.—Two inches and two-tenths of rain fell the last two days of the month.

Claremont, N. H.—October 1.—The first real freeze of the season occurred to-day. 22d.—A smart shower of hail from $4\frac{1}{2}$ to 5 p. m., with two or three claps of thunder.

North Barnstead, N. H.—October 1.—Ice one-fourth of an inch thick.

Georgetown, Mass.—October 15.—A heavy white frost here, and ice on lower ground; thunder and lightning in the afternoon and evening at the south and southeast. 29th, 30th, heavy rain; blowing a gale in the evening and night of the 29th.

Newport, R. I.—October 15.—Thunder shower from 7 to 8 p. m. 24th, first white frost.

Groton, Conn.—Two and a quarter inches of rain fell on the 29th and 30th.

Colebrook, Conn.—October 1.—Ground slightly frozen this morning.

Depauville, N. Y.—October 5.—Between 4 and 5 a. m. a thunder storm from the northeast, with a copious rain, the latter lasting all day. 18th.—The ground is very dry. 21st.—The warm weather seems to stop the wild geese in their flight to the south for a while, as they are moving to-day in large flocks to the northwest again.

Palermo, N. Y.—Only one inch of rain fell during the month, half of it on the 5th, and half on the 10th and 11th. Wells and springs here that never before failed are now (31st) dry.

Rochester, N. Y.—October 1.—Quite a hard frost this morning, killing the tomato vines in some localities. 4th, a severe thunder storm very early in the morning. 31st, a few flakes of snow fell between 7 and 8 p. m. The mean temperature of the month was 2.54° above the general average for October.

Elwood, N. J.—October 1.—Ice formed as thick as window glass this morning. Until the 24th tomato vines were green, and the fruit ripening.

Trenton, N. J.—October 31.—Snow squall at 3 p. m., the first of the season.

Newark, N. J.—The mean temperature of the month was more than a degree above the average of October for twenty-five years. There were two heavy falls of rain, on the 5th and 29th, the first depositing more than an inch and a half, and the last nearly two inches and a fifth. The storm of the 29th was very violent, the rain descending at times in almost unbroken sheets, and the wind blowing a gale from the northeast. On the 11th a rain occurred between 7 and 9 p. m., accompanied with very heavy thunder and vivid lightning. The rain of the month was nearly an inch above the average.

Philadelphia, Penn.—October 31.—Hoarfrost first observed on the morning of the 25th. The barometer was higher on the 24th than ever before seen by the observer in October.

Newcastle, Penn.—October 31.—The first snow, half an inch, fell on the night of the 30th.

Ephrata, Penn.—October 1.—Heavy frost this morning. 24th.—First ice of the season this morning, a quarter of an inch thick on standing water.

Perryville, Penn.—October 1.—Vegetation mostly killed by the frost this morning.

Emmitsburg, Md.—October 1.—Heavy frost, destroying vines. 5th, exceed-

ingly heavy rain from 5 a. m. to 8 a. m. 28th, rain began at 2 a. m. and continued until 8 p. m. of the 29th: waters very high.

Snowville, Va.—October 1.—First frost, heavy. 30th, sprinkle of snow, with sleet at 9 p. m., very slight.

Surry C. H., Va.—October 1.—First frost. 3d, diffuse lightning with rolling thunder in the northwest; a storm at night. 10th, some thunder at 1 p. m. 27th to 29th, heavy rain; wind in the beginning of the storm from the east, at the end from the northwest. 31st, snow from 6½ to 9 a. m.

Romney, West Va.—October 1.—First frost. 31st, snow two inches; first of the season.

Grafton, West Va.—October 25.—First ice. Rain from the 27th to the 31st.

Attway Hill, N. C.—October 1.—First white frost; very light. Six inches of rain fell from the 26th to the 28th.

Moulton, Ala.—October 29.—Herbage not killed by frost until this morning, though frosts in the low grounds were reported as early as the 7th.

Fayette, Miss.—The only rain during the month was on the 26th, when it fell gently all day and the most of the night. The first white frost was on the 31st, but so light that no tender vegetation was injured.

Columbia, Texas.—October 3.—Strong gale of wind from the north during the night, with high wind and sudden squalls through the day. 9th, first flock of wild geese arrived. The month has been marked by severe hurricanes at Galveston on the 3d, and on the Rio Grande on the 6th and 7th.

Clarksville, Tenn.—October 3.—Flashes of very distant lightning at the south after dark. 4th, three-quarters of an inch of rain to-day. 25th, rain from 3 a. m. this morning till 1 a. m. of the 26th. The first killing frost was on the 31st.

Memphis, Tenn.—October 13.—Very light frost. 31st, a sharp frost this morning.

Chilesburg, Ky.—October 1.—A white frost this morning, 24th, a heavy frost, killing tender vegetables in bottoms.

Toledo, Ohio.—October 14.—Three inches of snow fell to-day; the deepest fall of snow on record in this vicinity in the month of October."

Painesville, Ohio.—October 1.—First frost, but nothing injured.

Lisbon, Ohio.—October 1.—Hard frost; ice as thick as window glass. 5th, thunder storm last night. 30th, two inches of snow.

Kelley's Island, Ohio.—October 1.—Frost reported in the interior of the island, but none near the lake; thermometer at daylight 45°. 2d, thunder at the west and northwest at 7 a. m. 24th, light hoar frost, the first of the season.

Ripley, Ohio.—October 30.—Four and a half inches of snow fell to-day.

Kenton, Ohio.—October 4.—Thunder showers from the northwest at 7 p. m.; lightning zigzag and forked.

Williamsport, Ohio.—October 1.—Severe thunder storm from 1 p. m. to 11½ p. m. from the northwest. 7th, a frost this morning which cut down all vegetables in exposed situations; sorghum was slightly injured, but imphee in the same situations was uninjured.

Northfield, Ohio.—October 30.—Commenced snowing at 2 p. m., and at 9 it was nearly six inches deep. It broke down a good many trees.

Litchfield, Michigan.—October 30.—Rain from 4 to 7 a. m., then snow till 11 p. m. Three inches of snow fell, and was very wet, being half water. 31st, the month has been warm and dry; streams very low; the St. Joseph's river at this point is lower than the observer has known it for the last eighteen years.

Central Mine, Michigan.—October 22.—One inch of snow fell to-day.

New Harmony, Indiana.—The rain-fall for August, September, and October

was $2\frac{1}{4}$ inches; the amount in the corresponding months during the last fifteen years varied from 6 to 12 inches.

Aurora, Indiana.—October 1.—First frost observed.

Richmond, Indiana.—October 4.—A severe thunder storm, attended with a heavy gale from the northwest. It tore down considerable timber a little southwest of here.

Columbia City, Indiana.—An inch of snow fell on the 30th and 31st.

Merom, Indiana.—October 1.—Frost, the first of the season.

Augusta, Ill.—October 30.—First snow; just covered the ground.

Ottawa, Ill.—October 23.—Ice formed a fourth of an inch, the first this autumn.

St. Louis, Mo.—October 1.—First white frost on bottom lands. 3d and 4th, thunder and lightning in the afternoon. 23d, heavy white frost.

Rolla, Mo.—October 30.—Ice formed for the first time. Not rain enough during the month at any time to wet the ground more than three inches deep.

Harrisonville, Mo.—October 12.—First light frost this morning.

Plymouth, Wis.—Thunder showers on the 17th and 19th. First snow in the evening of the 29th.

Manitowoc, Wis.—October 29th.—First snow this night. 31st.—This October was the warmest in seventeen years, except 1854, when the mean temperature was 52.33° .

Milwaukee, Wis.—The quantity of rain since June 1 is only 8.91 inches, which is only about half the average of the same period for twenty-four years.

New Ulm, Minn.—October 22.—Ice an eighth of an inch thick.

St. Paul, Minn.—October 12.—First ice formed.

Sibley, Minn.—October 29.—An inch of snow.

Fort Madison, Iowa.—October has been extremely dry; wells are drying up; pastures are dried up; farmers are digging wells deeper for water; three-quarters of an inch of snow on the morning of the 30th.

Algona, Iowa.—October 12.—This morning the ground is white with frost. 29th, one inch of snow.

Iowa City, Iowa.—October 6.—First frost, very light; no damage. 23d, first killing frost. 29th, first snow, one-tenth of an inch.

Manhattan, Kansas.—October 12.—Frost on low ground.

Atchison, Kansas.—October 5.—The ground covered with white frost this morning; but little damage done to growing crops. 12th.—Very heavy frost this morning. 20th, thunder, lightning, and heavy wind and rain-storm from the northwest at 6 p. m.

De Soto, Nebraska.—October 2.—Wild geese and brants flying south. 12th, first frost; tomato vines, &c., killed. Thermometer 30° at daybreak.

Dakota City, Nebraska.—October 12.—First frost, sufficient to kill vines.

Richland, Nebraska.—October 5.—Heavy white frost.

Wanship, Utah.—October 8.—Snow three inches deep.

NOVEMBER, 1867.

Many of the registers north, south, and west, contain notices of "hazy," "smoky," and "Indian summer" weather, beginning about the middle of November and continuing from a week to ten days.

Gardiner, Maine.—The mean temperature of November was a degree and two-thirds below the average of the month for thirty-one years, and the amount of rain an inch and two-thirds less than the average for twenty-nine years. Seven and a half inches of snow fell during the month. There was good sleighing eight days, and the river was frozen six days.

Corinth, Maine.—November 16.—Five inches of snow fell to-day.

Stratford, N. H.—Sixteen inches of snow fell during the month, five inches

of it on the 16th. This has been the coldest November for ten years, which is as far back as the observer has the means of comparing. On the 22d to the 25th, and on the 28th, there was no wind at all, which was very remarkable for this mountainous region.

Shelburne, N. H.—November 12.—No frost in the ground. 16th, first sleighs out. 18th, Androscoggin closed. 19th, teams cross on the ice.

Lunenburg, Vt.—One inch of snow on the 16th; five inches during the month. Connecticut river frozen over on the 20th.

Craftsbury, Vt.—Four inches of snow on the 16th; eleven and two-thirds inches during the month. Good sleighing from the 16th to the 24th.

Kingston, Mass.—November 13.—A quarter of an inch of snow to-day, the first of the season, and no more during the month. 16th, sharp lightning and heavy thunder at noon; rain from 10 a. m. to 1 p. m. 19th, skating; small ponds frozen over.

Mendon, Mass.—November 19th (mean temperature 15°) was the coldest day so early in November for thirty-four years, and was the coldest day in November during that period, except November 30, 1835, November 25, 1838, November 28, 1844, and November 30, 1847.

New Bedford, Mass.—November 16.—A flash of lightning with thunder about one-half p. m.; a building destroyed in a neighboring town. 18th, three-fourths of an inch of snow; this was all that fell during the month.

Newport, R. I.—About four inches of snow fell on the 12th. This was the first snow of the season, and the only one in November.

Middletown, Conn.—November 12.—The storm this morning began with a moderate rain about 8 o'clock. This afternoon changed to snow, which fell very fast and continued until near midnight. When the snow began the ground was entirely free from frost and comparatively warm, so that much snow must have melted, but still, on the morning of the 13th, that which remained was a foot in depth. There has not been so severe a storm here so early in the season since 1841, when there was a storm quite similar to this, on the 3d and 4th of October. At that time the snow was about a foot deep, and then, as now, there was much less snow both north and south of this place.

Troy, N. Y.—Three-tenths of an inch of snow fell during the month—one-tenth on the 17th, and two tenths on the 20th.

New York, N. Y.—November 12.—Snow from 9.45 a. m. to 12.10 p. m.; melted as fast as it fell. 13th, the first ice.

Buffalo, N. Y.—Half an inch of snow fell on the 13th, the first to whiten the earth this season. The average fall of rain for the past nine years, for the six months ending November 30, has been twenty and two-tenths inches; this year it was only ten inches. Wells, cisterns, and small streams are drying up, and great inconvenience is met with by farmers in some localities in procuring water for stock.

Depauville, N. Y.—November 30.—Mean temperature of to-day $10\frac{2}{3}^{\circ}$. This is the coldest day in November within the recollection of the observer, thirty-six years.

Newark, N. J.—The mean temperature of the month was the same as the average of November for twenty-four years. The quantity of water was unusually small, being nearly two inches below the average, and only twice in twenty-four years, 1850 and 1857, has so small a quantity fallen in November. On the 12th some snow was mingled with the rain, melting as it fell.

Greenwich, N. J.—The earth whitened with snow on the 30th, the only time during the month.

Paterson, N. J.—An inch of snow on the 30th.

Philadelphia, Penn.—November 13.—Ice formed in the suburbs of the city; in the afternoon a light snow. 14th, first ice observed in the streets.

Pocápsan, Penn.—One-tenth of an inch of snow on the 30th.

Reading, Penn.—Enough snow to whiten the ground on the 13th and 30th.

Avondale, Penn.—Slight snow on the 12th, 13th, and 30th.

Blooming Grove, Penn.—November 11.—Thunder storm from 7 to 8 p. m. 12th, a little snow in the afternoon and towards night.

Franklin, Penn.—November 12.—Four inches of snow. 14th, snow all gone. 30th, six and five-eighths inches of snow fell during the month. It continues very dry; farmers in adjoining county are killing their cattle for want of water.

New Castle, Penn.—November 30.—Another unusually dry month; very little rain has fallen since the 7th of August; streams are very low, and numerous springs and wells are dry. Four inches of snow fell early this morning.

Beaver, Penn.—November 12.—The ground was covered with snow in the morning, but it disappeared in the forenoon. 26th, during the night rain set in and continued at intervals till the night of the 29th, when a violent snow storm came on from the northwest, and two inches of snow fell.

Emmitsburg, Md.—Snow only on the 12th and 30th, both very light.

Woodlawn, Md.—November 30.—Squalls of snow.

Catonsville, Md.—November 19.—Ice first formed.

Cape Charles light-house, Va.—Violent gale from the northwest on the 29th and 30th.

Surry Court-house, Va.—November 6.—Great white frost, first ice of the season.

Romney, West Va.—November 30.—Very high wind all day from the west with slight sprinkle of snow, enough to cover the ground.

Grafton, West Va.—Snow twice during the month, half an inch on the 12th, and half an inch on the 30th.

Attaway Hill, N. C.—November 10.—A storm from the southwest, with thunder and lightning.

Wilkinsville, S. C.—November 5.—Killing frost and ice. 12th, ground frozen half an inch in exposed places.

Jacksonville, Fla.—November 30.—The first and only frost of the season thus far was on the 13th of this month. The mean temperature of the month was two and seven-tenths degrees above the average for fifteen years. The amount of rain was two inches and sixty-seven hundredths less than the average.

Greene Springs, Ala.—November 5.—Second heavy frost this autumn.

Grenada, Miss.—The entire month has been remarkable for its mild, beautiful, Indian summer weather. There were frosts on nine mornings; those on the 5th, 6th, and 30th heavy; a hard freeze accompanying the latter.

New Orleans, La.—November 5.—At daybreak a very slight, barely perceptible frost. 8th, the Mississippi river has been at its lowest stage for several weeks. The water is as clear as lake water, and when the atmosphere is clear it assumes a beautiful pea green color. There is no perceptible current. 17th, fires in the mornings and evenings are desirable. 18th, the Mississippi rather falling than rising. 30th, ice was seen in still water on the levee early this morning.

Waco, Texas.—November 6.—First frost this morning.

Austin, Texas.—November 30.—First general and killing frost.

Memphis, Tenn.—November 5.—A sharp frost this morning. 30th, ice in street five-eighths of an inch thick.

Chilesburg, Ky.—November 1.—A general frost, the first this autumn.

Kenton, Ohio.—On the night of the 10th and 11th was the first snow of the season to remain on the ground, but not enough to measure. Three-quarters of an inch of snow on the 30th.

North Fairfield, Ohio.—Half an inch of snow on the 11th, and four inches on the 30th.

Painesville, Ohio.—An inch and three-quarters of snow on the 11th, and an

inch and a quarter on the 29th. This has been the driest and warmest November within recollection.

Urbana, Ohio.—The mean temperature of November was 5.24 degrees above the average of the month for fifteen years, and the quantity of rain and snow less than two-thirds of the average.

Monroe, Mich.—A quarter of an inch of snow on the 30th, the only snow mentioned during the month.

Holland, Mich.—Four inches of snow on the 29th and 30th.

Merom, Indiana.—November 3.—At 2.10 p. m. a fearful storm of wind and rain burst from the southwest, and continued twenty minutes.

Muncie, Indiana.—November 11.—One inch of snow. 29th, the weather remained remarkably mild and pleasant until this morning, when a cold rain began to fall and terminated in snow, a portion of which melted as it fell—depth less than an inch.

Chicago, Ill.—November 29.—Ground covered with snow this morning for the first time this season.

Ottawa, Ill.—November 23.—Hard thunder storm.

Golconda, Ill.—November 19.—Ohio river lowest stage this season. 29th, about one-third of an inch of snow.

Dubuois, Ill.—November 29.—First snow to-day, four and a half inches.

St. Louis, Mo.—November 29.—The first snow of the season.

Hermitage, Mo.—November 28.—Snow, four inches, an unusual amount in this region.

Harrisonville, Mo.—Two and a quarter inches of snow on the 28th.

Embarrass, Wis.—Four inches of snow on the 29th.

New Lisbon, Wis.—Heavy thunder and lightning on the 22d and 23d.

Milwaukee, Wis.—November 30.—River closed with ice.

New Ulm, Minn.—November 28.—Minnesota river frozen over last night.

Minneapolis, Minn.—First ice forming in the Mississippi at this point, November 28; first skating on the river November 29. Two and a quarter inches of snow on the 3d, and half an inch on the 28th.

Marble Rock, Iowa.—November 26.—The river is lower than it has been before for seven years. 28th, snow blowing a little all day, but scarcely enough to whiten the ground; the only snow during the month.

Moulton, Iowa.—November 23.—First rain since October 8.

Iowa City, Iowa.—Hard shower on the 23d, accompanied with thunder; the first sprinkle in thirty days.

Fort Madison, Iowa.—November 23.—This has been the longest drought since the State was settled by white men; wells nearly all failed. 28th, two and one-tenth inches of snow.

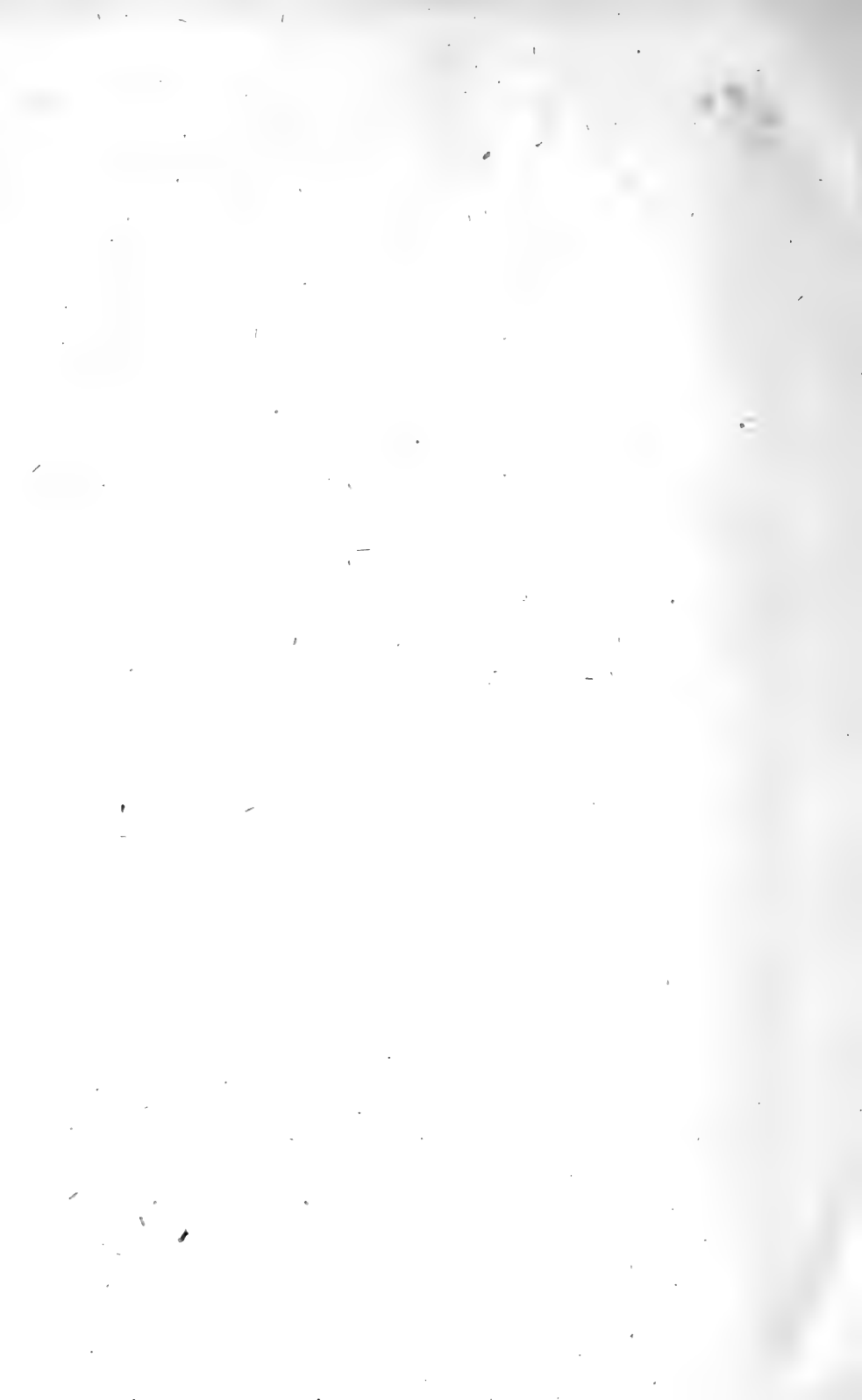
Atchison, Kansas.—November 28.—Three inches of snow. 30th, ice floating in the Missouri opposite this city to-day, being the first this season.

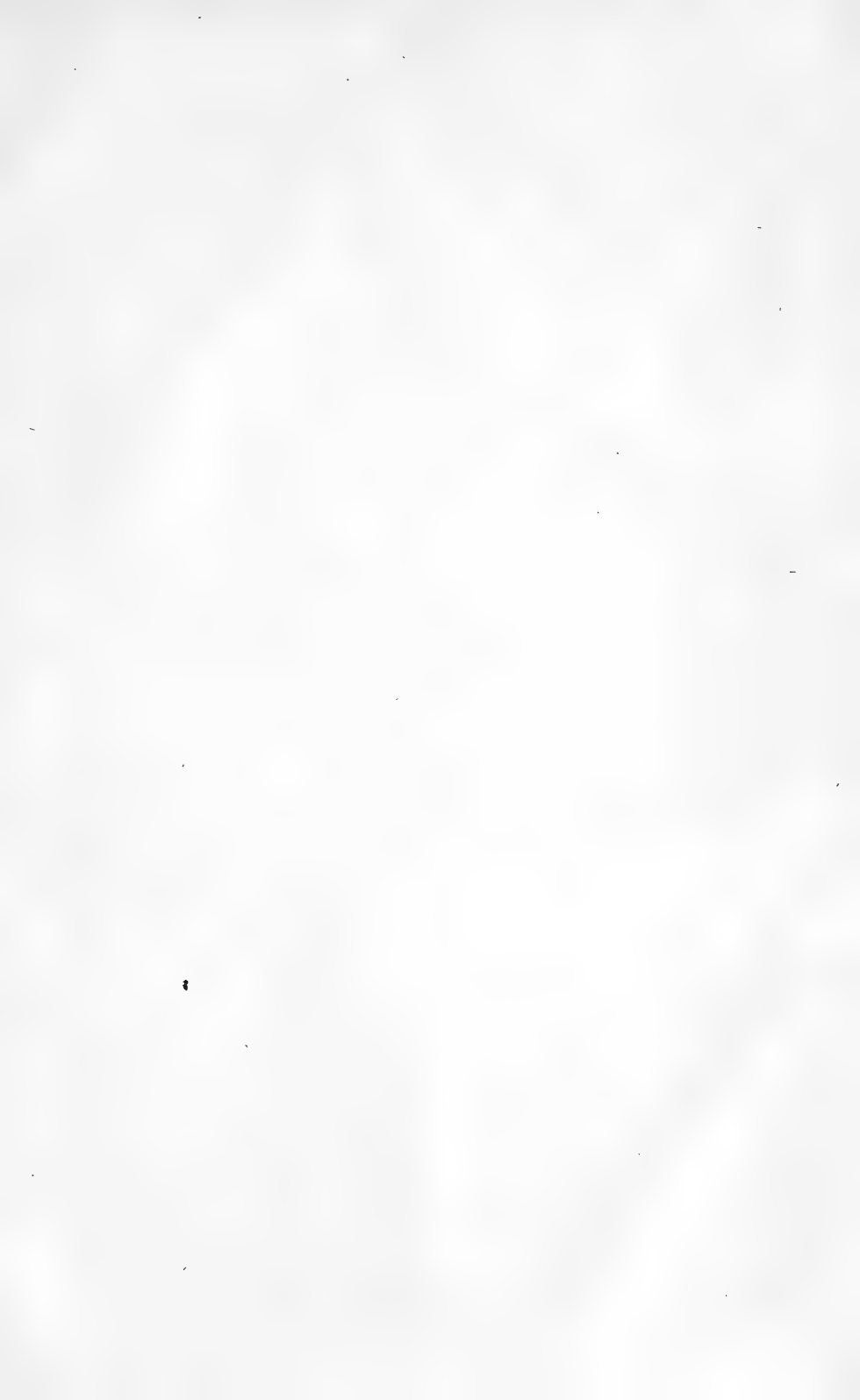
Baxter Springs, Kansas.—Snow from 11 p. m. 28th to 6 a. m. 29th; depth four inches. No rain during the month till the 24th.

De Soto, Nebraska.—No rain during the month, and the only snow three-tenths of an inch on the 28th.

Glendale, Nebraska.—Three-quarters of an inch of snow on the 28th, the only snow except a few scattering flakes on the 10th. No rain during the month. The earth has not been thoroughly wet since the 18th of July.

Richland, Nebraska.—No rain during the month; a quarter of an inch of snow on the 28th. This has been the warmest November during nine years observed, except November, 1865, which was followed by such general injury to fruit trees. The wood of fruit and other tender trees appears to be matured this season. Winter began on the 28th, up to which time ploughing continued.







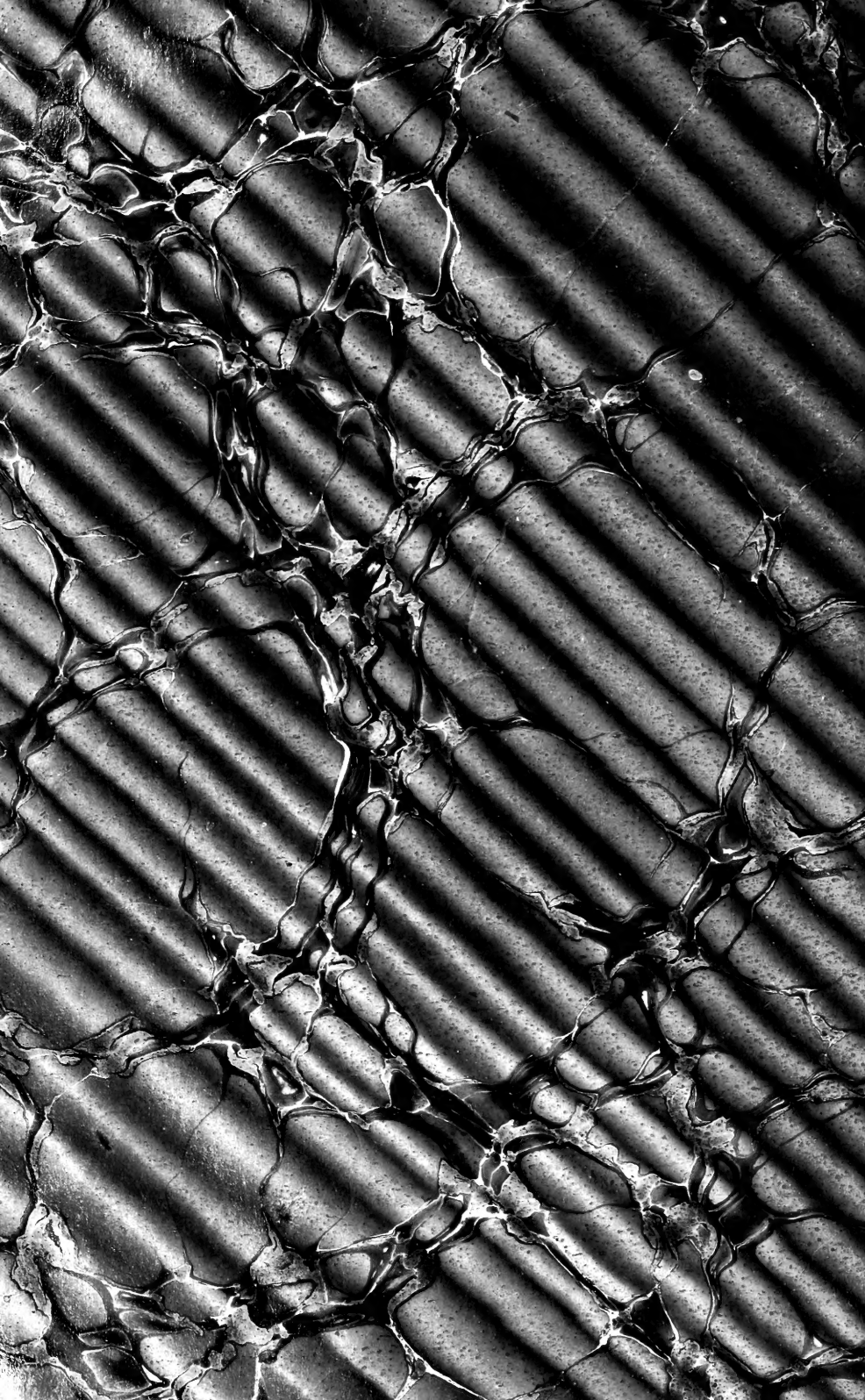












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